CASIO
V-T500/V-N500 Series
Software Manual

(Version 1.07)

CASIO Computer Co., Ltd.

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June 2013

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Preface

If terminal state is factory default, following menu is displayed when terminal is started up: Select options according to your operation.

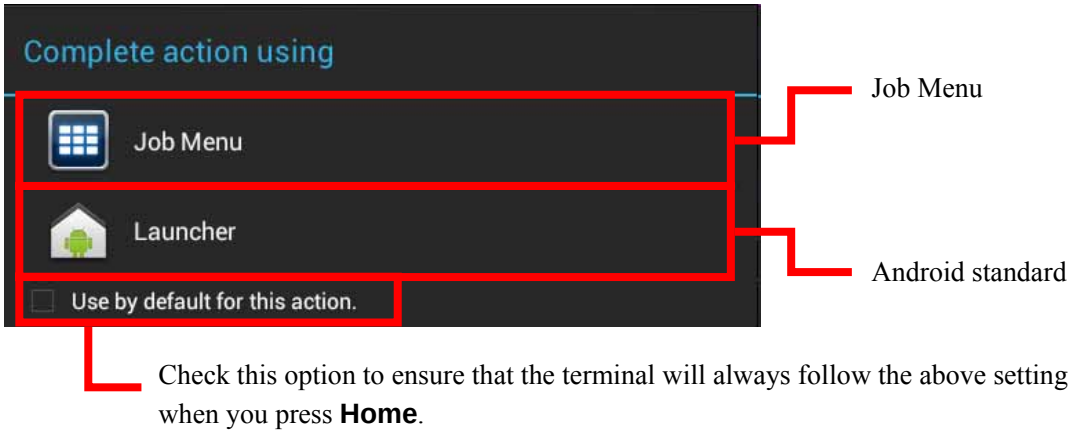

Complete action using
Job Menu
Launcher
Use by default for this action.
Job Menu
Android standard
Check this option to ensure that the terminal will always follow the above setting when you press **Home**.

Figure 0.1

If you use **Job Menu**, you need to customize the following two functions:

1. You need to build a menu according to your operation. On how to build a menu, see 5.2 Job Menu.
2. On the **Settings** screen, select **None** for **Security**.

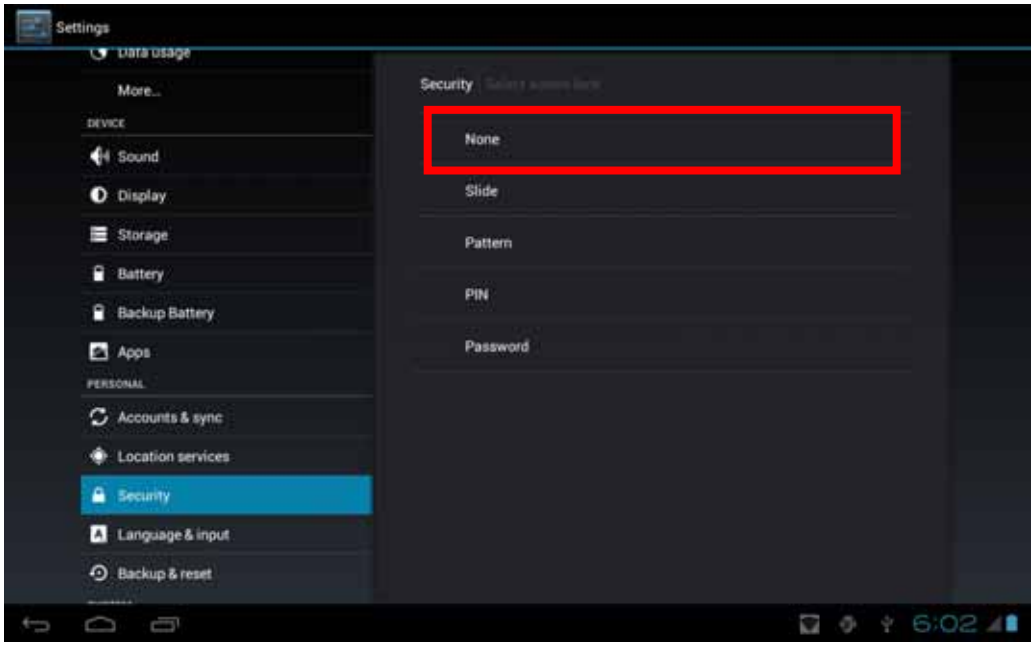


Figure 0.2

1. Basic Specifications

1.1 Android4.0

The terminal integrates Android4.0 as its operating system.

Software Modules

Microsoft core modules are integrated in the terminal as below.

Table 2.1

Software Modules		
Application	Standard	Camera
		Browser
		Email
		Gallery
		Music
		Clock
		People
		Calendar
		Search
		Calculator
		Key Entry
	Additional Accessories	Adobe Reader
		Memo Text
		Memo Paint
		Job Browser
		Voice Recorder
	Settings	Settings
		WIRELESS & NETWORKS Settings
		DEVICE Settings
		PERSONAL Settings
		SYSTEM Settings
	Operation Support Tools	Job Menu
		Login Settings
		Job User Editor
		Security Settings
		AntiBurglar
	System Support Tools	File Manager
		WLAN Tool
		Backup/Restore
		Copy Devices
	Demo Tools	NFC Demo
		Barcode Scanner
Application Framework	Activitity Manager	

	Window Manager	
	Content Providers	
	View System	
	Package Manager	
	Telephony Manager	
	Resource Manager	
	Location Manager	
	Notification Manager	
Android Runtime	Core Libraries	
	Dalvik Virtual Machine	
Libraries	Surface Manager	
	Media Framework	
	SQLite	
	Open GL ES	
	FreeType	
	WebKit	
	SGL	
	SSL	
	libc	
	CASIO Libraries	
Linux Kernel	Standard Driver	Display driver
		Flash memory driver
		Binder (IPC) driver
		Keypad driver
		Wifi driver
		Audio driver
		Other features
	CASIO Driver	Camera
		Security
		Maintenance
		Power management
		Logging

1.2 Language Support

System Locale

The following is the default settings of language and locale in the terminal.

Table 1.2

Default language	Locale	Remarks
English (United States)	Los Angeles	

Language Support

Following languages are supported.

Figure 1-1

1.3 Media Format

Audio

The followings encoder and decoder are supported in V-T500/V-N500.

Table 1.3

Format	Encoder	Decoder
AAC	Yes	Yes
MP3		Yes
MIDI		Yes
WAVE		Yes

The android API related with “Audio“ are shown below.

android.media : The class that provide various media interfaces for audio and video.

android.media.MediaPlayer : The class to play audio and video.

Please refer to the official web site "Android Developers" for details of the android API.

Image

The followings encoder and decoder are supported in V-T500/V-N500.

Table 1.4

Format	Encoder	Decoder
JPEG	Yes	Yes
GIF		Yes
PNF	Yes	Yes
BMP		Yes
WEBP	Yes	Yes

The android API related with “Image“ are shown below.

android.media : The class that provide various media interfaces for audio and video.

android.media.MediaPlayer : The class to play audio and video.

Please refer to the official web site "Android Developers" for details of the android API.

Movie

The followings encoder and decoder are supported in V-T500/V-N500.

Table 1.5

Format	Encoder	Decoder
H263	Yes	Yes
H264	Yes	Yes
MPEG4		Yes

The android API related with “Movie“ are shown below.

android.media : The class that provide various media interfaces for audio and video.

android.media.MediaPlayer : The class to play audio and video.

android.widget.VideoView : Displays a video file

Please refer to the official web site "Android Developers" for details of the android API.

1.4 Power Control

Power supply state

There are the following kinds of the power supply states of a personal computer.

Table 1.6

No	Item	Screen	RAM	CPU	Explanation
1	ON	ON	ON	ON	The state where the terminal is working
2	Early Suspend	OFF	ON	ON	The state where only the screen serves as OFF. OS and application are continuing operation.
3	Suspend *	OFF	ON	OFF	Devices other than RAM are in the state where all serve as OFF mostly. Although OS and application remain on RAM, almost all operations are stopped.
4	OFF	OFF	OFF	OFF	It is in the state where all the devices serve as OFF.

* Depending on the application on Android, it may be written as "sleep."

It is called "starting" that a state changes to 1 from 4.
Moreover, it is called "resume" that a state changes to 1 from 3 to 1 and 2.
Hold down the power button for approx. 1 sec. in the state of OFF, LED charging lights up green for about one second, and the state of the terminal will be ON.
Pressing the power button for a moment at the state is 2 or 3, the terminal will be “resume”.
For models equipped with a magnetic sensor, there is a “resume” function by closing the System Case with a built-in magnet.
For models and magnetic sensor, please refer to "1.11 Sensor”.

Eco-Charge

In addition to the normal battery charging, this terminal has Eco-Charge mode to prevent deterioration of battery.
In this mode, the charging rate of the battery stops charging when it reaches 80%.
The way to set Eco-Charge mode is described in “DEVICE Settings”.

The functions of the System Library related with the “Eco-Charge“ are shown below.

setEcoCharge : This function sets Eco-Charge to enabled or disabled.
getEcoCharge : This function sets whether Eco-Charge is enabled or disabled.

Safety Power Off

This terminal has two batteries.
Main battery is mounted on the rear of body.
Backup battery is built into the body, it can not be replaced. Backup battery is used to keep the user data while replacing the main battery.
The period to backup user data depends on the setting of terminal.
The way to set up terminal is described “DEVICE Settings” for its detail.

When you open the battery cover to change the battery, then the micro SD card is un-mounted, and the terminal will be suspended.

1.5 Memory Management

The eMMC (Embedded MultiMediaCard 16GB) are integrated in the terminal.

eMMC is used for Boot area (for system boot), System area (for OS) and Storage area (for internal storage).

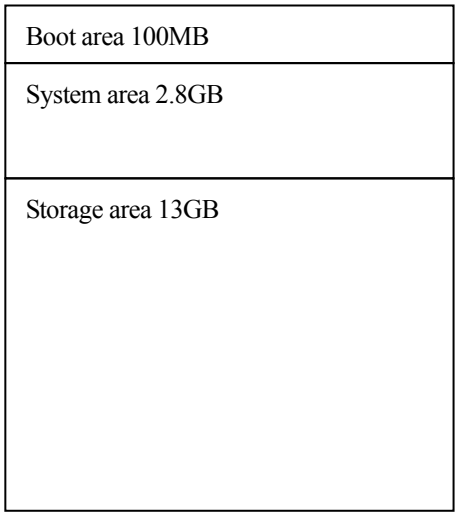


Figure 1-2

The "Storage area" is used as Linux file system.
The terminal has SD card slot and micro SD card slot for external memory. And the USB A port on the terminal and USB host port on the cradle can be used for as external memory.
Each media is mounted in the Linux file system.

Table 1.7

Directory-path	Storage
/mnt/sdcard	Internal storage
/mnt/external1	micro SD card (See Note1)
/mnt/external2	SD card (See Note2)
/mnt/usb1_storage	USB storage that is connected to USB A port on the terminal.
/mnt/usb2_stroage	USB storage that is connected to USB host port on the cradle.

Note1: The terminal support the “microSD” and “microSDHC”, and also support CLASS 10 transfer rate.
Note2: The terminal support the “SD Card” and “SDHC Card”, and also support CLASS 10 transfer rate. The recommended value is CLASS4.

The RAM(1GB) are integrated in the terminal.

RAM is used for System area (for Linux Kernel/Android), reserved area (for Camera) and the other reserved area for the rest (e.g boot animation).

In a System domain, it becomes an application use domain except the domain which OS uses (Linux/Android …).
The size of this domain changes with the states of OS or a device.

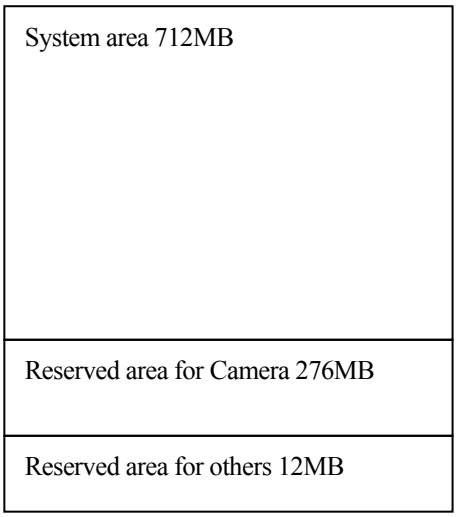


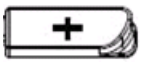
Figure 1-3

1.6 Keys

Key Assignments

The following is the keyboard layout employed in the terminal.

Table 1.8

KEY	Android key event	Operation	Remarks
	KEYCODE_BUTTON_A	Assigned by user application.	
	KEYCODE_BUTTON_B	Assigned by user application.	
	KEYCODE_VOLUME_UP	Volume up	
	KEYCODE_VOLUME_DOWN	Volume down	
	KEYCODE_POWER	Power on/off	It is not possible to control the ON / OFF of the power supply.
		Screen lock on/off	Can not get the software event.

Please refer to the official web site "Android Developers" for details of the android key event.

1.7 Operation mode

If the user directly operate the terminal, application on the terminal should be limited the operation. The operation mode is meant to be used in this situation.Operation mode setting is basically easy, but difficult to user.

Initial State

Configuration Switch is on the behind of the battery cover.
The upper side means ON, and the lower side means OFF.

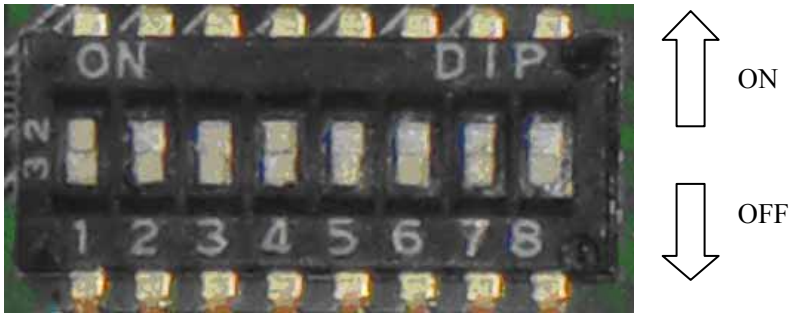


Figure 1-4

Initial state of configuration switches are set as below.

Table 1.9

No.	Initial switch state	Remarks
1	ON	
2	ON	
3	ON	
4	ON	
5	ON	
6	OFF	
7	OFF	Operation mode switch
8	OFF	

User can change No.7 switch only, otherwise the terminal will not boot.

Operation mode switch

Users can change the operation mode by switch No.7.

Table 1.10

State of switch No.7	Operation mode
ON	Customer mode
OFF	Normal mode

Changing the operation mode can also change the mode of Job Menu.
See Job Menu for its details.

Operation mode Notification

When the operation mode is changed, sticky intent (Intent.ACTION_OP_MODE_EVENT) is send to the applications.

Table 1.11

State of switch No.7	Value of status
ON turns to OFF	0
OFF turns to ON	1

Please refer to the official web site "Android Developers" for details of “sticky intent”.

Retrieve Operation mode Status

The state of the operation mode can be retrieved by the function of System Library.

The functions of the System Library related with the “Operation mode“ are as below.

getOperationModeSwitchState : Retrieve the state of the operation mode switch.

1.8 Touch Panel

The terminal is equipped with a capacitive touch panel, and it can be pressed 6 points simultaneously, and input of finger and the digitizer pen are available.

Due to this, simultaneous finger and pen inputing is possible.

“Tool Type” can be retrieved by using getToolType() method of MotionEvent class. By the "Tool Type", you can recognise what tools is used for inputing.

Table 1.12

Tool Type	Input type
TYPE_FINGER	Finger
TYPE_MOUSE	Mouse
TYPE_STYLUS	Digitizer pen
TYPE_UNKNOWN	Others

Input button status can be retrieved by using getButtonState() method of MotionEvent class.

Table 1.13

Tool Type	Input type
BUTTON_PRIMARY	Primary button (left mouse button)
BUTTON_SECONDARY	Secondary button (right mouse button, stylus first button).
BUTTON_TERTIARY	Tertiary button (middle mouse button, stylus second button).
BUTTON_BACK	Back button pressed (mouse back button).
BUTTON_FORWARD	Forward button pressed (mouse forward button).

The functions of the android API related with the “Touch Panel“ are as shown below.

android.view.MotionEvent : The class that operate the motion event of mouse, pen, finger, trackball.

Please refer to the official web site "Android Developers" for details of android API.

1.9 LED

There are two LEDs integrated in the terminal, one is for the user notifications that user and the other is for charging the battery status notification.
User notification LED can be controlled by Android API.

The functions of the android API related with the “LED“ are as shown below.

android.app.NotificationManager	:	Class to notify the user of events that happen.
android.app.Notification	:	A class that represents how a persistent notification is to be presented to the user using the NotificationManager.

Please refer to the official web site "Android Developers" for details of the android API.

It’s possible to use 6 color (green, red, orange, blue, cyan, magenta).
The lighting pattern that is set for user notification LED finally is valid, it’s not possible to use several lighting patterns in the same time.

1.10 GPS

The terminal is equipped with a GPS module

The functions of the android API related with the “GPS” are as shown below.

android.location.GpsStatus	:	The class that provides the current state of the GPS engine.
android.location.GpsStatellite	:	The class that provides the current state of a GPS satellite.

Please refer to the official web site "Android Developers" for details of the android API.

1.11 Sensor

The following sensors are equipped in the terminal.

- ambient light sensor
- acceleration sensor
- angular acceleration sensor
- geomagnetic sensor
- Magnetic Sensor (V-N500 Series only)

The functions of the android API related with the “Sensor“ are as shown below.

android.hardware.Sensor	:	The class that provides a sensor.
Android.hardware.SensorManager	:	The class that enables to access the device's sensors.
Android.hardware.SensorEvent	:	The class that provides a Sensor event and holds informations such as the sensor's type, the time-stamp, accuracy and of course the sensor's data.

Please refer to the official web site "Android Developers" for details of the android API.

The functions of the System Library related with the “Sensor“ are as shown below.

setWakeOnMagneticSensor	:	This function sets terminal resume by magnetic sensor to enabled or disabled.
getWakeOnMagneticSensor	:	This function acquires whether terminal resume by magnetic sensor is enabled or disabled.

The following functions are supported by each sensor.

- The automatic screen brightness adjustment
- Auto-rotate screen
- Self-contained navigation
- Electronic compass
- Resume from suspend (magnetic sensor only. See “1.4 Power control”.) See note

Note: This function is disabled in default.

1.12 Bluetooth

Communication Profiles

The Bluetooth profiles described in following table are supported.

Table 2.14

Function	Purpose
GAP (General Accessible Profile)	Used in the substructure segment of Bluetooth communications such as device discovery, link establishment and security.
SPP(Serial Port Profile)	Emulates a serial port connection to use Bluetooth device.
HSP(Headset Port Profile)	Used for Bluetooth Headset.
HID(Human Interface Device Profile)	Provides support for devices such as mice, keyboads.
AVRCP(Audio/Video Remoto Control)	A/V Remote Control Profile.
OPP(Object Push)	A basic profile for sending "objects" such as pictures, virtual business cards, or appointment details.
PAN(Personal Area Network)	To allow the use of Bluetooth Network Encapsulation Protocol for transport over a Bluetooth link.
A2DP(Advanced Audio Distribution)	For high quality audio (stereo or mono) can be streamed from one device to another over a Bluetooth connection.
FMP(Find Me)	Defines the behavior when a button is pressed on one device to cause an alerting signal on a peer device.
PXP(Proximity)	Enables proximity monitoring between two devices.
PASP(Phone Alert Status)	Enables a PUID device to alert its user about the alert status of a phone connected to the PUID device.
TIP(Time)	Enables the device to get the date, time, time zone, and DST information and control the functions related the time.

The following table shows the association of Bluetooth device/usage/profile and application.

Table 2.15

Bluetooth device	Usage	Profile and application
Bluetooth mobile phone Bluetooth modem etc.	Dial-up	- DUN Profile - OS standard “Settings” + TCP/IP application [Attention] While DUN profile is used, - Don’t use WAN/Wi-Fi/LAN cradle - It’s impossible to communicate via proxy
Bluetooth access-point that supports PAN profile	LAN connection	- PAN Profile - OS standard “Settings” + TCP/IP application [Attention] While PAN profile is used, - Don’t use WAN/Wi-Fi/LAN cradle - It’s impossible to communicate via proxy

Bluetooth printer	Print to printer	- Serial Profile - Application for printing
“CopyDevices” application that is built in tablet, PDA that supports Bluetooth, PC that supports Bluetooth, etc.	File transfer among Bluetooth devices	- OBEX Object Push - OS standard “Gallery”
Bluetooth headset	Voice communication	- HSAG Profile - BT mono + application that supports microphone and speaker [Attention] It’s impossible to use Skype because the way that Skype uses microphone and speaker is not normal.
Bluetooth headphone	Play music	- A2DP Profile - OS standard “Music” [Attention] In case of headphone that supports Headset Profile and A2DP Profile, select only “Media audio” during pairing. If “Phone audio” is also selected, it may be played with monaural phone quality.
G-SHOCK watch that supports Bluetooth (“GB-6900AA” series, “GB-5600AA” series)	To make tablet ring by watch	- FMP - CASIO application to configure Bluetooth watch
	To make tablet ring by watch in case tablet and watch is far apart each other.	- PXP - CASIO application to configure Bluetooth watch
	To notify tablet of receiving SMS (and so on) by watch	- ANP - CASIO application to configure Bluetooth watch
	To stop ringing of tablet that is notified ANP by watch	- PASP - CASIO application to configure Bluetooth watch
	Synchronize the time of tablet with the time of watch	- TIP - CASIO application to configure Bluetooth watch

Note: Please use certified Bluetooth device.

The functions of the android API related with the “Bluetooth“ are as shown below.

android.bluetooth : Provides classes that manage Bluetooth functionality.

Please refer to the official web site "Android Developers" for details of the android API.

1.13 WLAN

The terminal is equipped with a WLAN module.

The functions of the android API related with the “WLAN“ are as shown below.

android.net.wifi : The class that provides to access to Wi-Fi network.

android.net.wifi.p2p : The class that provides create peer-to-peer (P2P) connections with Wi-Fi Direct.

Please refer to the official web site "Android Developers" for details of the android API.

1.14 HDMI

The terminal is equipped with a HDMI output.

The functions of the android API related with the “HDMI “ are as shown below.

android.hardware.display.DisplayManager : Manages the properties of attached displays.

android.hardware.display.DisplayManager.DisplayListener : Listens for changes in available display devices.

Please refer to the official web site "Android Developers" for details of the android API.

1.15 Speaker

The terminal is equipped with a speaker.

The functions of the android API related with the “Speaker“ are as shown below.

android.media.AudioManager : AudioManager provides access to volume and ringer mode control.

Please refer to the official web site "Android Developers" for details of the android API.

1.16 Microphone

The terminal is equipped with a microphone.

The functions of the android API related with the “Microphone“ are as shown below.

android.media.MediaRecorder : Used to record audio and video.

Please refer to the official web site "Android Developers" for details of the android API.

1.17 Terminal specific information

The terminal has “Device ID” as its specific information.
And “Distributer ID” is a information for application developers to set, as the terminal specific information.

The "Device ID" and "distributor ID" can be used by the distributor and user to prevent illegal use of application by unauthorized party at a time of installing or carrying out the illegally copied application by checking these codes.

These information will not be erased by initializing or OS updating of terminal.

The functions of the System Library related with the “Sensor“ are as shown below.

setDistributerID	:	This function sets distributor IDs in order to identify the distributor which developed the application.
verifyDistributerID	:	This function verifies distributor IDs in order to identify the distributor which developed the application.
getDeviceID	:	This function acquires device ID in order to identify the terminal.

1.18 Cradle specific information

By using a LAN/USB cradle, a terminal is connectable with LAN.
A LAN cable is connected to a LAN/USB cradle and it becomes the form which sets a terminal.
A connection setup to LAN, such as an IP address, is possible for both a cradle unit and a terminal unit.

Cradle ID

It's possible to set "Cradle ID" to the cradle.

The functions of the System Library related with the "Cradle ID" are as shown below.

setCradleID : This function sets cradle ID that identifies the connected cradle.
getCradleID : This function acquires cradle ID in order to identify the connected cradle.

Cradle IP

It's possible to set IP address, subnet mask, and default gateway of cradle.
When terminal connected to the cradle, terminal can communicate with IP information set in the cradle. (Default is to use the settings on the terminal side)

Refer to the "4.3 WIRELESS & NETWORK Settings" for the setting method which IP information on the method, terminal, and cradle which set IP information to a cradle to use.

The functions of the System Library related with the "Cradle IP" are as shown below.

setCradleIP : This function sets cradle IP information.
getCradleIP : This function retrieves cradle IP information.
setCradleIPSetting : This function sets whether IP setting on the cradle is enabled or disabled.
getCradleIPSettings : This function retrieves whether IP information setting on the cradle is enabled or disabled.

1.19 NFC(Near Field Communication)

The following types of smart card can be accessed for reading and writing by the Near Field Communication (hereafter referred to it as NFC) integrated in the terminal.

- ISO/IEC14443 Type A (MIFARE Standard; Ultralight) See note 1.
- ISO/IEC14443 Type B
- FeliCa See note2.
- ISO15693(ICODE SLI, ICODE SLI-L, ICODE SLI-S, my-d V 10 Plain, my-d Light, Tag-it HF-I Plus, Tag-it HF-I Pro, Tag-it HF-I Standard) See note 3.

Notes

1. Verification is required at the time of installation, because some cards may not follow ISO standard.
2. The FeliCa security area can be accessed by using a FeliCa SAM card “RC-S251”. RC-S251 can be accessed from the SAM library.
3. About Tag-it series, Lock AFI / LockDSFID command is not supported by NFC controller specification. And it takes time to write data of Tag-it. Some commands are required on the application verification process.

The functions of the android API related with the “NFC“ are as shown below.

android.nfc : The class that provides access to Near Field Communication (NFC) functionality.

Tag-it Control

Please note in case you develop a software that executes Tag-it command on Android 4.0.
If following Tag-it commands are executed by "android.nfc.tech.NfcV.transceive" method, IOException will occur even if the result is success.
For that reason, when you develop a software that executes these Tag-it commands, please use try-catch block that executes Tag-it command in the try block and verify the result in the catch block.

Table 2.16 Tag-it commands

Tag-it command	How to verify
Write Single Block	Retrieve data by "Read Single Block" and compare.
Lock Block	Check whether the locked by "Read Single Block".
Write AFI	Check the AFI by “Get System Information”.
Write DSFID	Check the DSFID by “Get System Information”.

Please perform retry processing from a command again without considering it as an error immediately, even when the result of a check is unusual.
Since write-in processing of Tag-it may be set to about 250 msec, as for the number of times of a retry, 1 to 5 times becomes a standard.
Please keep in mind that there is a possibility that the response at the time of an error may exceed 1 second when it is made more.

1.20 SAM(Secure Application Module)

This chapter describes about detailed specifications of the SAM.

1.20.1 Basic Specifications

Access functions are supported for SAM cards inserted in the SAM card slot. Communication can be performed with SAM cards compliant with ISO7816.

1.20.2 Power Control

SAM card controller power control

When a SAM device is opened, power is supplied to the SAM card controller and the ASIC that controls the controller. When a SAM device is closed, power to the SAM card controller and the ASIC that controls the controller is cut off.

The following SAM library functions relate to this function.

open	: Turns on power to the SAM card controller
close	: Turns off power to the SAM card controller

SAM card power control

The power supply for the SAM card can be controlled to switch on and off by executing a SAM library function while a SAM device is open.

The following SAM library functions relate to this function.

powerUpCard	: Turns on power to the SAM card in the specified slot
powerDownCard	: Turns off power to the SAM card in the specified slot

1.20.3 Communication Functions

Command Send/Receive Functions

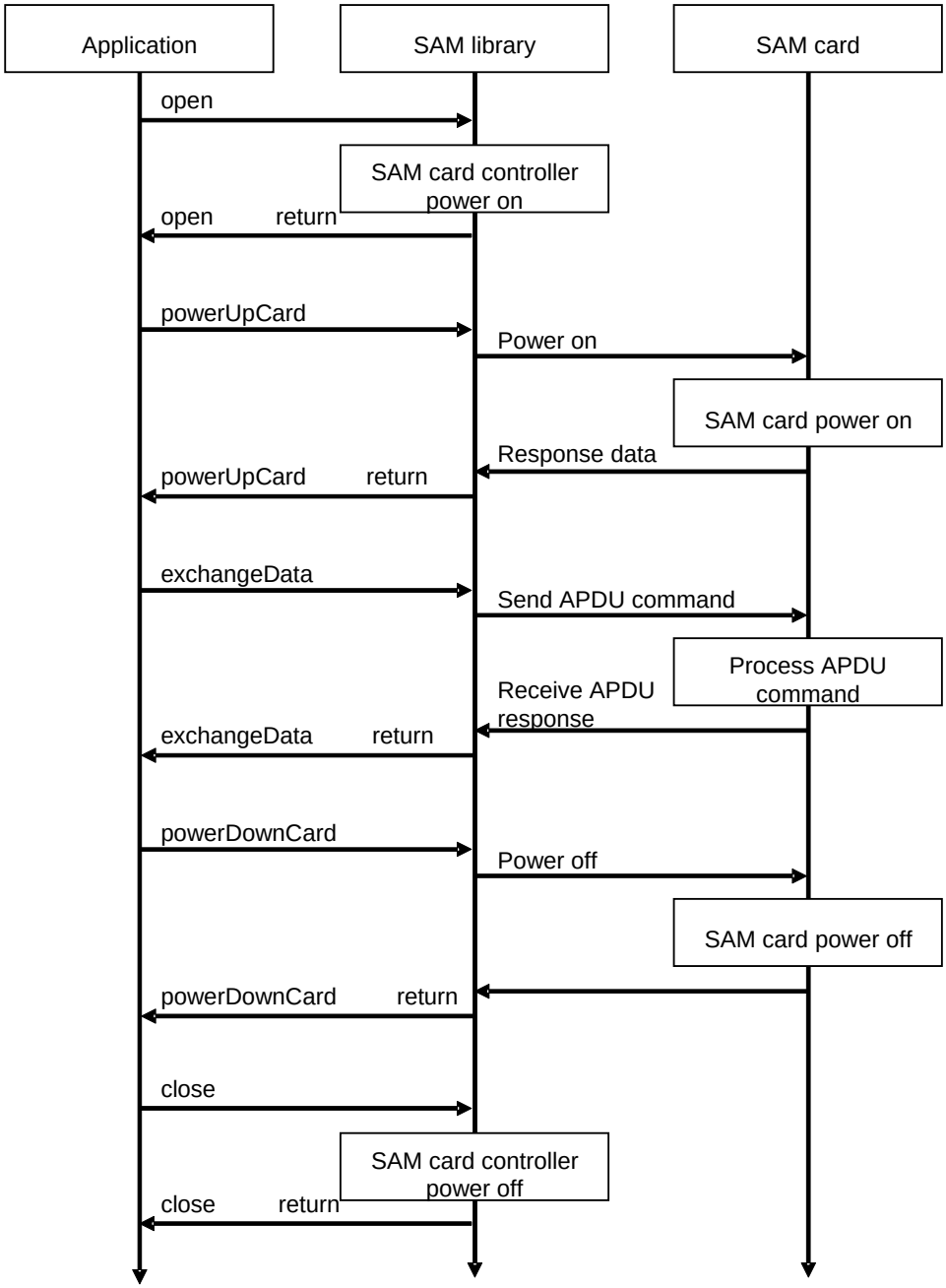
APDU (Application Protocol Data Unit *1) format commands can be sent to a SAM card that is switched on. Information from the SAM card in response to such commands can be acquired.

*1 Refer to the ISO7816-3 standard for details of the APDU format.

The following SAM library functions relate to this function.

exchangeData	: Sends APDU-format commands to the SAM card in the specified slot, and receives responses

The following is an example of command send/receive operations between the application and the SAM card.



1.20.4 Processing During Suspend and Resume

The SAM control software switches the SAM card controller and the SAM card off when the terminal is turned off. The actions stated in the table are performed when the terminal resumes.

Table 1-5-3

Mode	When terminal is suspended	When terminal resumes
Open mode	SAM card controller power off SAM card power off	SAM card controller power on SAM card power off
Card power is on	SAM card controller power off SAM card power off	SAM card controller power on SAM card power on (*1)
Closed mode	No process	No process

*1 When the terminal is suspended by auto power off etc., the content set on the SAM card is initialized. To restore previous status, it is necessary to make the previous settings again after resuming.

1.21 Application Launch

User application can launch the applications that are installed in V-T500/V-N500.
To launch the applications, Package name is required.
Package name has been mentioned in the list of installed applications shown at the beginning of each chapter after "2 Standard Accessories". Also you can get package name by "PackageManager" in Android standard library.
The following is a summary of how to launch application. Please refer to the official web site "Android Developers" for details.

Getting Activity

We can get the Acntivity name of application by using “PackageManager” from the package name.
"Activity" can launch only one that "android.intent.action.MAIN" "android.intent.category.LAUNCHER" in AndroidManifest.xml is defined.
We need to get the name of the activity that corresponds to this condition.

```
Intent ifind = new Intent();
ifind.setAction(Intent.ACTION_MAIN);
ifind.addCategory(Intent.CATEGORY_LAUNCHER);
ifind.setPackage("jp.casio.vx.util.memo.text"); //Package name
PackageManager pm = this.getPackageManager();
list<ResolveInfo> list = pm.queryIntentActivities(ifind, 0);
if( list != null ) {
   ResolveInfo item = list.get(0);
   String myClass = item.activityInfo.name; //Activity Class
}
```

In the above example, the name of the activity enters the myClass.

Launch Activity

When you get an activity, you can launch, as the example below.

```
Intent irun = new Intent();
irun.setClassName("jp.casio.vx.util.memo.text", myClass);
startActivity(irun);
```

In addition, if the application that has the intent argument, it is also possible to specify "putExtra" as follows.

```
Intent irun = new Intent();
irun.setClassName("jp.casio.vx.util.memo.text", myClass);
irun.putExtra( "FILEPATH", "/mnt/sdcard/xxx.txt" );
startActivity(irun);
```

1.22 Functional Restriction

Some services provided by the Google is not available because V-T500/V-N500 do not make a contract AFA(Anti-Fragmentation Agreement) to Google.
Therefore, following Android applications made by Google are not installed.
However, all of their applications are not installed made by Google.
The list of installed applications are shown at the beginning of each chapter after "2 Standard Accessories".

Unusable Application

The following applications are not installed.

- Google Play
- GMail
- YouTube
- Google Earth
- Voice Search
- Voice Dialer
- Maps
- Places
- Talk
- NAVI
- Speech Recognition
- Face Recognition
- BrowserGoogle
- CameraGoogle
- ChromeBookmarksSyncAdapter
- DeskClockGoogle
- ExchangeGoogle
- FaceLock
- GalleryGoogle
- GenieWidget
- GoogleBackupTransport
- GoogleContactsSyncAdapter
- GoogleFeedback
- GooglePackageVerifier
- GooglePackageVerifierUpdater
- GooglePartnerSetup
- GoogleQuickSearchBox
- GoogleServicesFramework
- GoogleTTS
- LatinImeGoogle
- MarketUpdater
- MediaUploader
- NetworkLocation
- NfcGoogle
- OneTimeInitializer
- SetupWizard

- TagGoogle
- Vending
- VideoEditorGoogle
- Wallet

Unusable Libraries

The following Libraries are not installed.

- libfacelock_ini.so
- libfilterpack_facedetect.so
- libfrsdk.so
- libvoicesearch.so

2. Standard Accessories

2.1 Software List

Table 2.1

Icon	Software name	Package name
	Camera	com.android.camera
	Browser	com.android.browser
	Email	com.android.email
	Gallery	com.android.gallery3d
	Music	com.android.music
	Clock	com.android.deskclock
	Messaging (Note1)	com.android.mms
	People	com.android.providers.contacts
	Calendar	com.android.calendar
	Search	com.android.quicksearchbox
	Calculator	com.android.calculator2
	Key entry	

Note1: You can use it on a WAN model.

2.2 Camera

Camera takes still and moving pictures.

Figure 2.1

1. Switch between front and rear facing Cameras
2. Shutter
3. Settings
4. Zoom In/Out
5. Panorama
6. Moving Picture
7. Still Picture

■ Settings

You can set the following modes:

Flash mode, White balance, Exposure, Photo mode, and Camera settings

2.3 Browser

By using **Browser**, you can view web pages as if you are using a PC.
In addition to this **Browser**, **Job Browser** is also installed.

Figure 2.2

1. Close Tab
2. New Tab
3. Menu
4. Turn Page
5. Reload Page
6. Display/Enter URL
7. Add to Bookmark Bar.
8. Search
9. Bookmark List

■ Menu

By selecting this option, you can set the following browser operations and others:

Reload (Stop), Advance, New Tab, New Secret Tab, Share the Page, Search in the Page, Request for the Desktop-version Site, Save the Page to Read It Online, Page Information, and Settings

■ Turn Page

Displays the next or previous page.

2.4 Email

Email sends and receives emails.

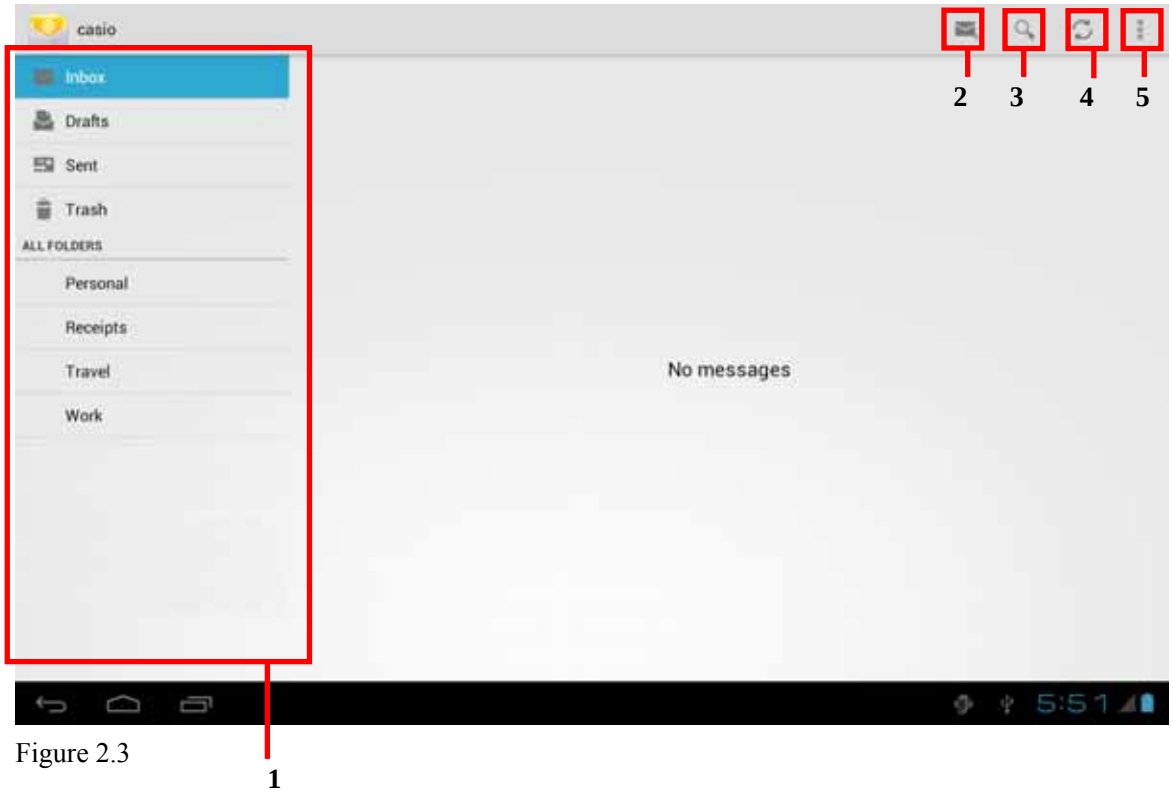


Figure 2.3

1. Email folders
2. New Email
3. Search
4. Send/Receive
5. Setting

■ Search

Searches the in-box for emails containing the specified keyword.

■ Send/Receive

Sends and receives emails.

■ Settings

Select this option to configure environmental settings relating to emails, such as account information and reception frequency settings, notification settings, and server settings.

2.5 Gallery

By using **Gallery**, you can view and arrange still and moving pictures.
Initially, the display is in a tile mode that is suitable for the effective sorting type.

Figure 2.4

1. Sorting Type
2. Launch Camera
3. Menu
4. Display Groups in Tile Mode According to Sorting Type

■ Sorting Type

You can select one of the following sorting types that will apply to the displayed images:
Album, Location, Time, Person, or Tag

■ Menu

You can set the following gallery operations:
Select album, Make available offline, Refresh

If you select a still picture, the selected picture is displayed in full-screen mode.

Figure 2.5

1. Return to List
2. Share
3. Delete
4. Menu
5. Display List of Grouped Images

■ Share

By using the following function, you can share the image:

Bluetooth and email transmission

■ Menu

By selecting this option, you can configure the following image display and editing settings:

Slide Show, Editing, Rotate(left/right), Trimming, Registration, and Detailed Information

2.6 Music

Music plays back voice data.

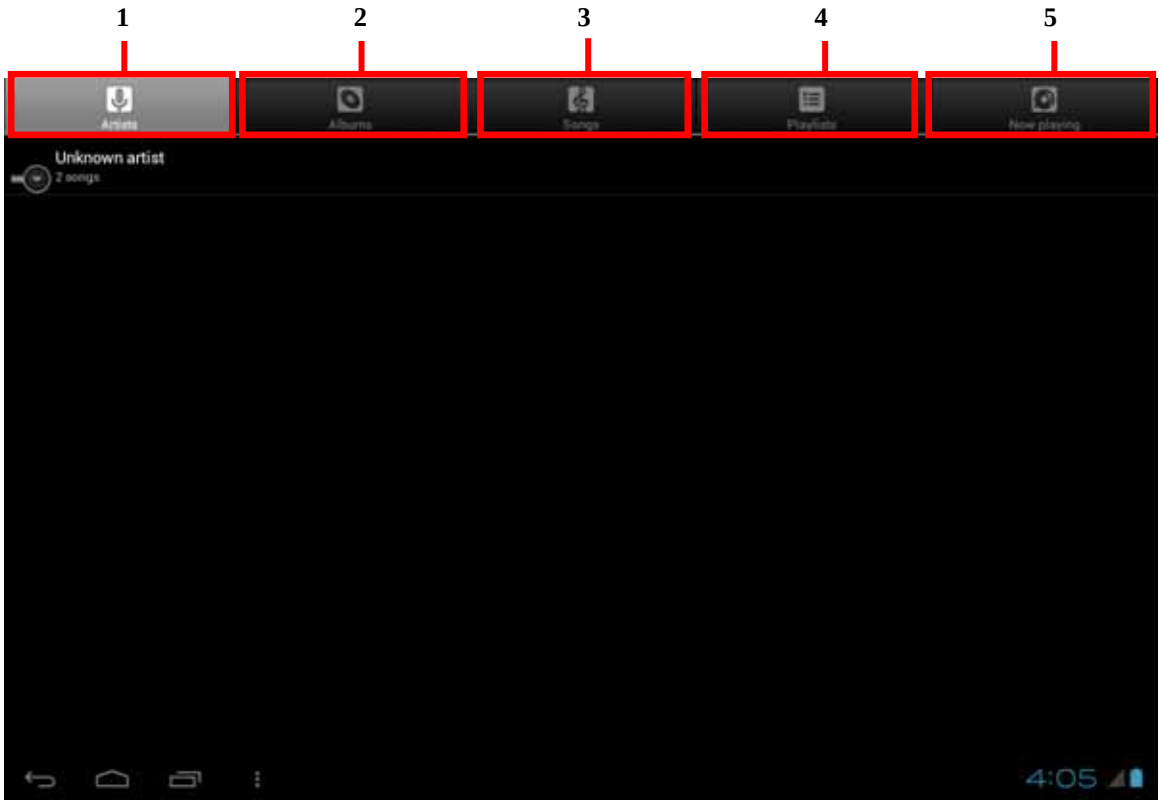


Figure 2.6

1. Artists
2. Albums
3. Pieces
4. Playlist
5. Playback

■ Artists

Displays a list of pieces saved in the order of artists.
If no artist information is registered, "Unknown artist" is displayed.

■ Albums

Displays a list of pieces saved in individual albums.

■ Pieces

Displays a list of pieces saved.

■ Playlist

Displays a list of grouped pieces (playlist).

■ Playback

Displays the identification of the piece that is being played back.

2.7 Clock

By using **Clock**, you can view the date and time and set an alarm.

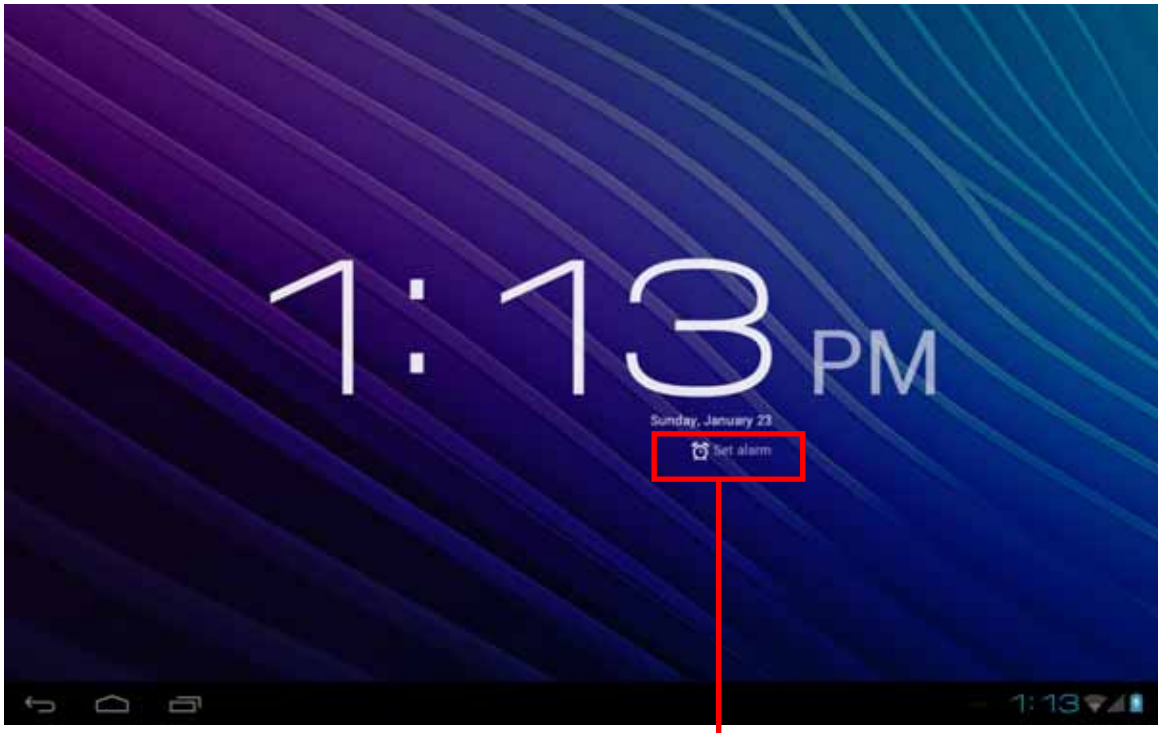


Figure 2.7

1. Set Alarm

2.8 Messaging

Messaging is a Short Message Service (SMS) application.
You can use it on a WAN model.

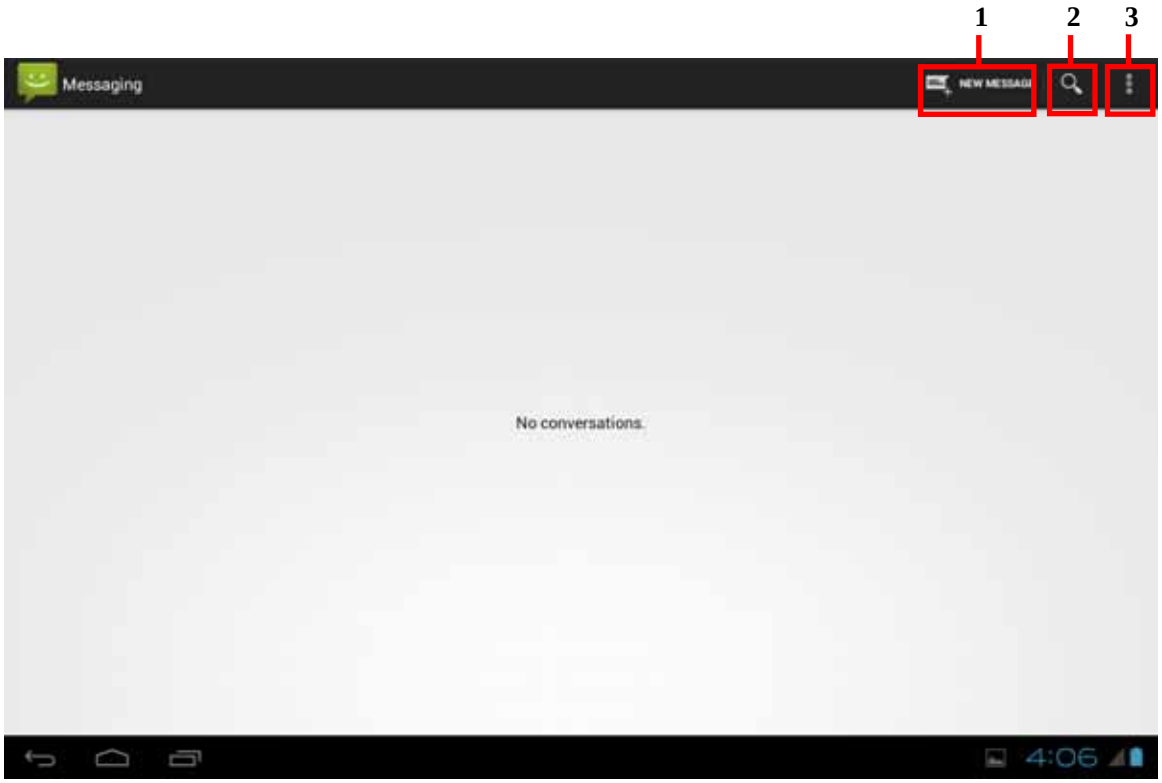


Figure 2.8

1. New Message
2. Search
3. Settings

■ Search
Searches for messages containing the specified keyword.

■ Settings
By selecting this option, you can configure environmental settings relating to the use of messages, including the message saving method, message sending/receiving method, and notifications.

2.9 People

People manages the postal address, email address, and other information of the user.

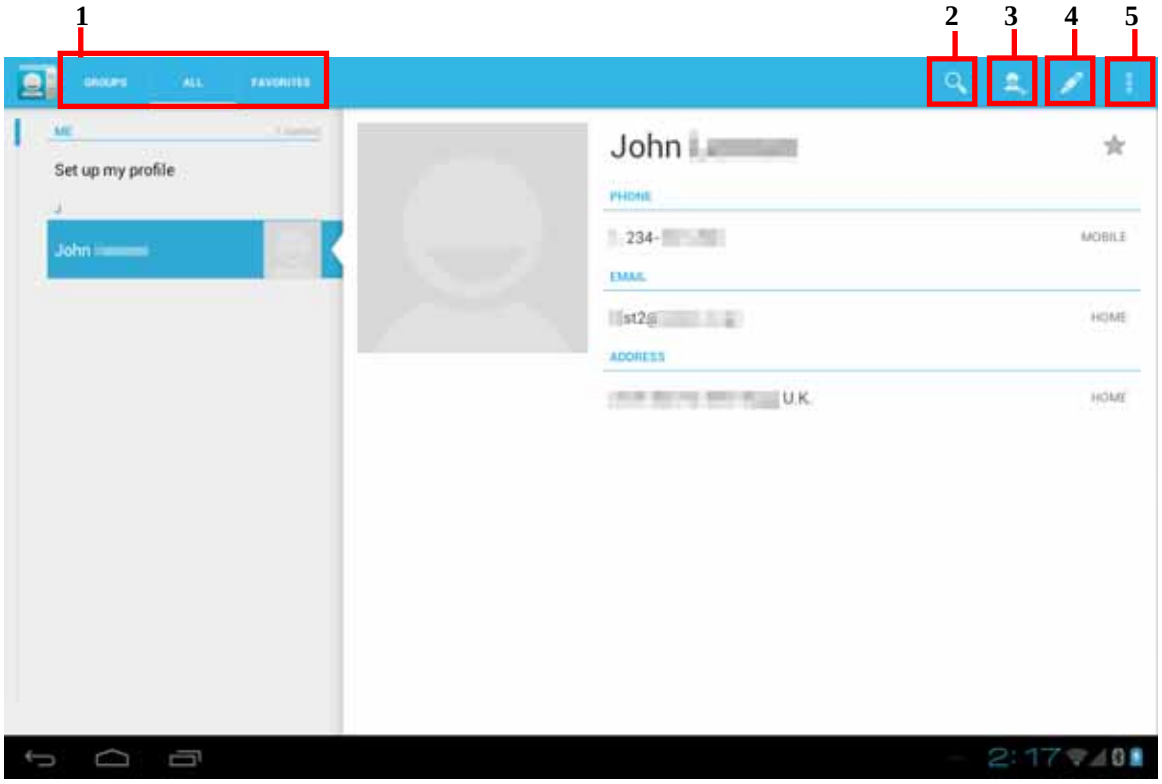


Figure 2.9

1. Select Display Target
2. Search
3. New
4. Edit
5. Menu

■ Select Display Target

Select one of the following display targets:

Group, All, and Favorites

■ Menu

By selecting this option, you can specify the following operations on user information:

Share, Delete, Contact Information Displayed, Import/Export, and Account, Settings

2.10 Calendar

By using **Calendar**, you can manage your schedule and register/check events.

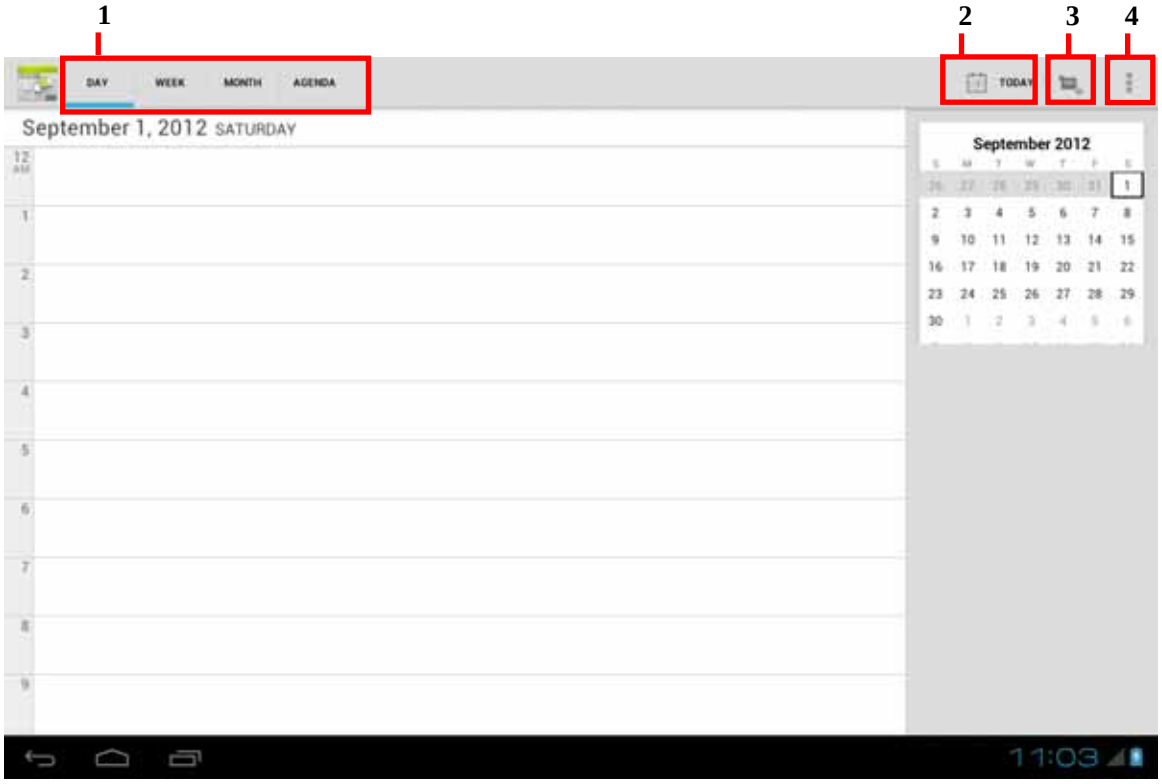


Figure 2.10 The daily display is in the following layout

1. Select Display Mode
2. Today
3. Create Schedule
4. Menu

■ Menu

By selecting this option, you can select one of the following calendar-related operations:
Refresh, Search, Hide/Show Controls, and Settings

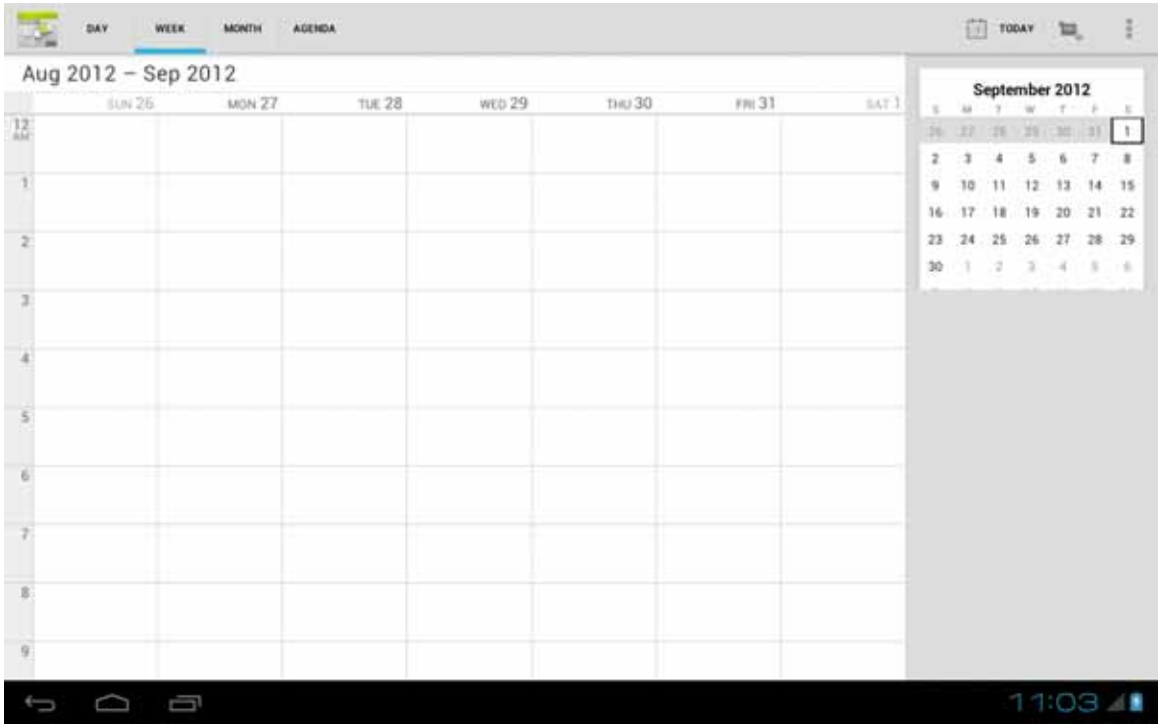


Figure 2.11 The weekly display is in the following layout

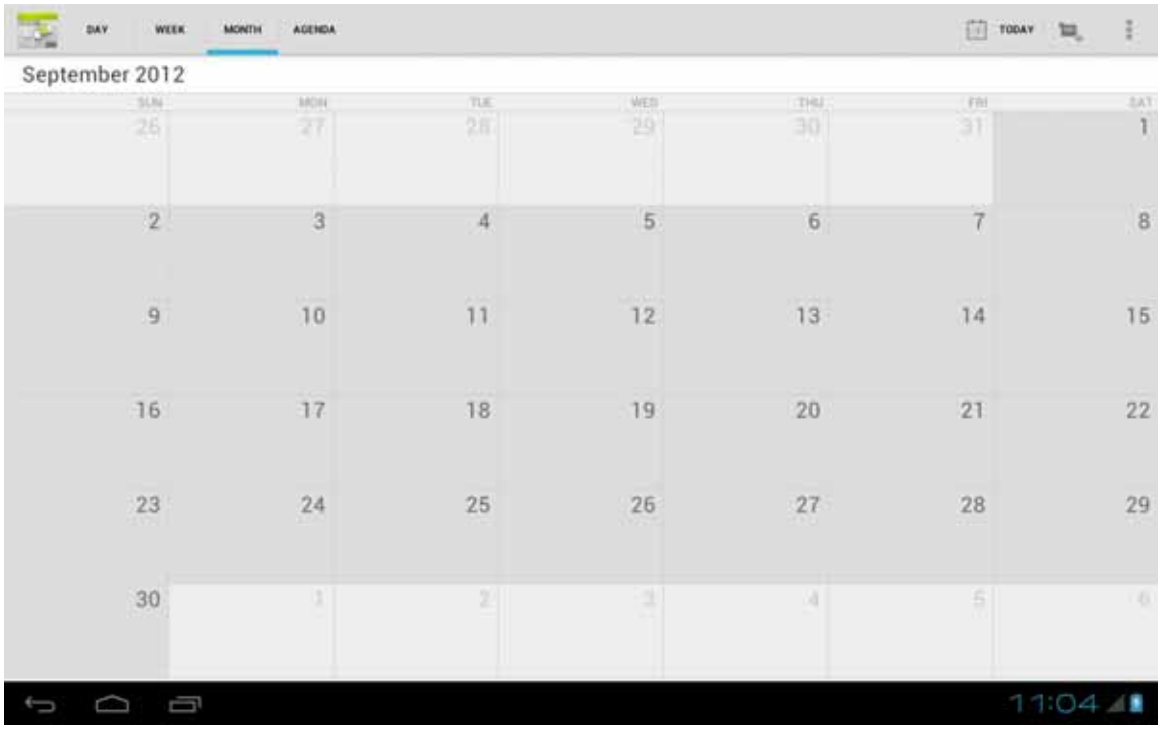


Figure 2.12 The monthly display is in the following layout

2.11 Search

The **Search** application searches the web or the terminal.

Figure 2.13

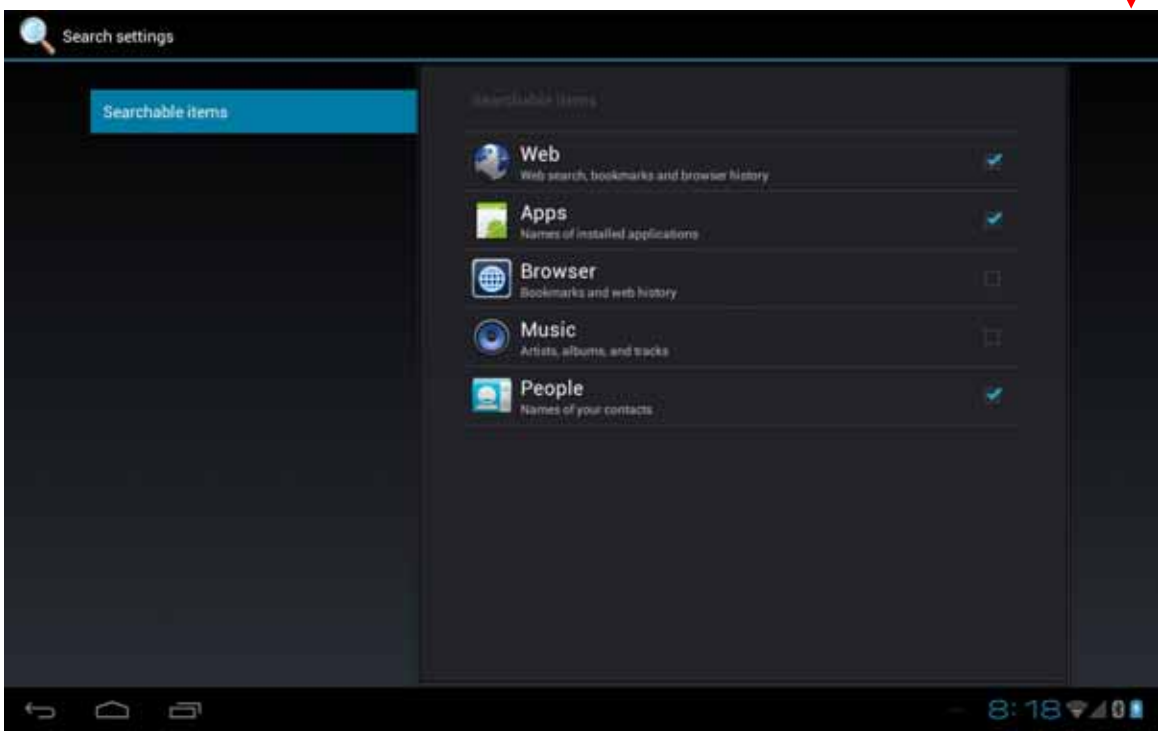


Figure 2.14

Targets that are checked will be searched.

2.12 Calculator

Calculator can perform numeric and function operations.

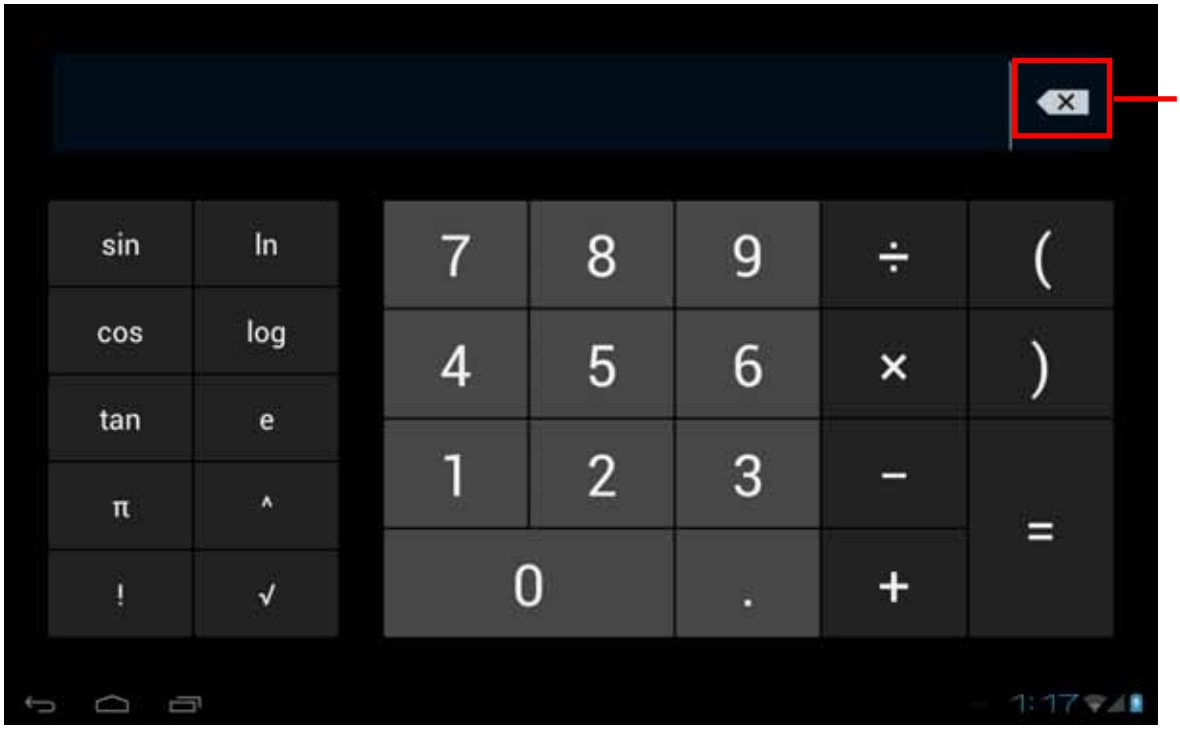


Figure 2.15

1. Delete One Character

2.13 Key Entry

The terminal includes Android keyboad as the key entry method.

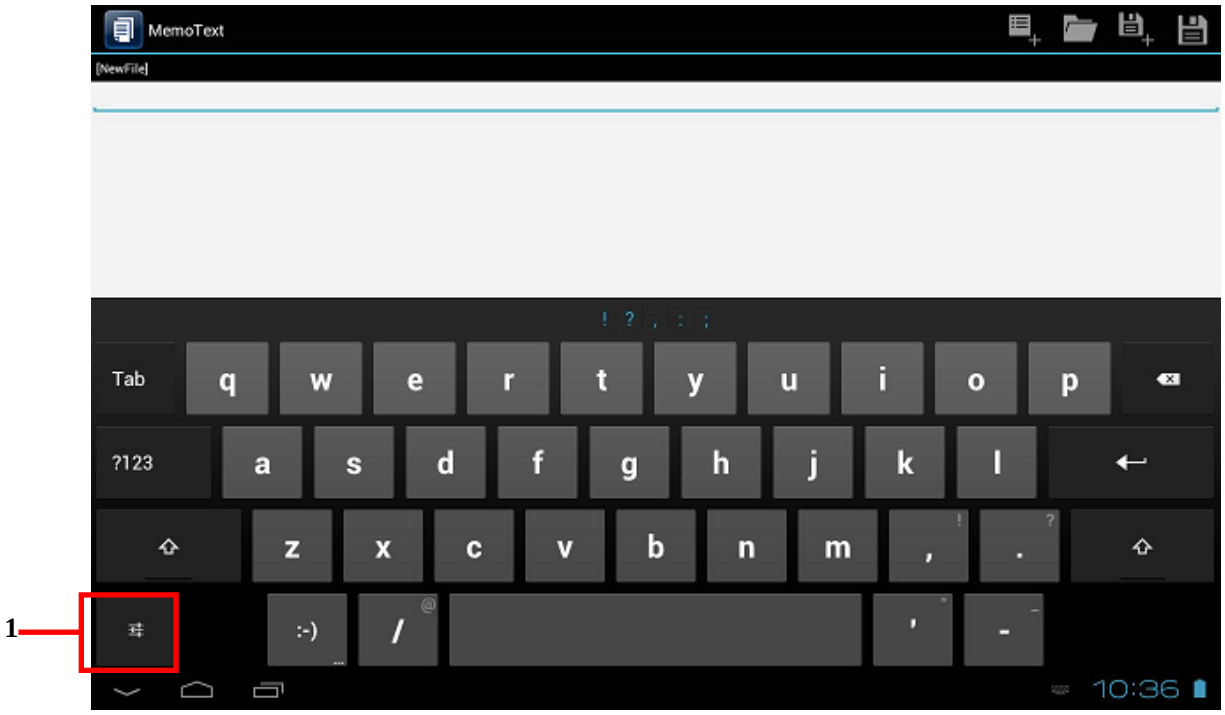


Figure 2.16 Keyboard layout

1. Input options

3. Additional Accessories

3.1 Software List

Table 3.1

Icon	Software name	Package name
	Adobe Reader	com.adobe.reader
	Memo Text	jp.casio.vx.util.memo.text
	Memo Paint	jp.casio.vx.util.memo.paint
	Job Browser	com.android.minibrowser
	Voice Recorder	com.mitac.recorder

3.2 Adobe Reader

By using **Adobe Reader**, you can view PDF documents.
If you select a PDF document in **File Manager**, the document is displayed in **Adobe Reader**.

1
2
3
4
5
Home
V-T500eng.pdf
Additional information on the business tablet can be obtained from
CASIO Europe GmbH
22848 Norderstedt, Germany – Casio-Platz 1
Tel.: +49 (0)40 52865 407 · Fax: +49 (0)40 52865 424
Email solutions@casio.de – www.casio-b2b.com
Business support tablet Casio V-T500 (Image: Casio Europe, Norderstedt, Germany)
In addition to being 1m drop-proof and resistant to external influences, the robust tablet PCs promise a high degree of availability due to intelligent energy management and replaceable batteries.
2/5
12:05

Figure 3.1

1. Home Screen
2. Display Mode
3. Draw and Edit
4. Share
5. Text Search

■ Home Screen

On the Home Screen, select the document to be viewed. The following menu appears:

What has been viewed recently and a list of documents

■ Display Mode

By selecting this option, you can select one of the following viewing methods:

Continuous, Single Page, Text Wrapping, and Automatic

■ Draw and Edit

You can perform the following editing operation on documents you are permitted to edit:

Comment, Highlight, Strikethrough, Underline, Append, Freehand, and Signature

■ Share

You can share documents using the following functions:

Bluetooth, Mail, and Send for Signature

3.3 Memo Text

Overview

Basic Functions

1) File Input/Output

This function reads and saves files.

In Android, system folders/files and application folders/files are assigned access permissions individually. Ordinary applications are inhibited from reading or updating files of other applications. (Security is thus ensured.)
This means that this tool generally acts on folders/files included in the storage.

2) Open as a Text Viewing Application

MemoText can be selected as a text file viewing application in the File Management Application.

3) Character Code Conversion

A function that converts character codes at the time of file I/O is provided according to the encoding (UTF8/UTF16LE/UTF16BE/ASCII/SJIS/MS932), BOM presence/absence (UTF8/UTF16LE/UTF16BE), and line feed code (LF/CRLF) specifications.

The Android standard character set is UTF8 (BOM absent), with LF as the line feed code.
In UTF16-LE and UTF16-BE, LE and BE stand respectively for Little Endian and Big Endian.
MS932 is an SJIS in which foreign characters out of the Windows system are assumed. Since SJIS operation depends on the Java version, MS932 can also be specified.

4) Cut, Copy, and Paste

The editing functions available as standard in Android can be used.

5) Character Entry

You can enter characters using the soft keyboard, Japanese language conversion, and other functions provided by Android as standard.

In the text input area, you can enter up to 7000 characters.
Note that if a longer text file is read and saved to overwrite the existing file, the extra data will be lost.

6) Control According to Tablet Rotation

The landscape or portrait layout is automatically selected according to the tablet orientation.

7) Localization

If Japanese is selected as the language, various kinds of data are displayed in Japanese.
If another language is selected, various kinds of data are displayed in English.

8) Linkage with Android Theme

The user interface behavior (such as color assignments) is based on the theme information specified in the Android device so that unification with various tools is ensured.

Operation Specification

Startup

MemoText, the package name of which is jp.casio.vx.util.memo.text, can be started from the Home Application.

If a text file is selected in the File Management Application, **MemoText** can also be run as a text file viewing application. (Startup based on an implicit intent is supported for MIME:text/plain.)

It is also possible to start up **MemoText** by assigning the file name to the explicit intent argument.

Table 3.2

Intent name	FILEPATH
Value	Full path of the target text file

If **MemoText** is started up using an implicit or explicit intent as described above, the target file is read on the assumption of UTF8, which is a standard Android character set.

Main Screen

If **MemoText** is started up from the Home Application, it is in new file creation mode, showing a blank area in which text can be entered.

Figure 3.2 Landscape mode

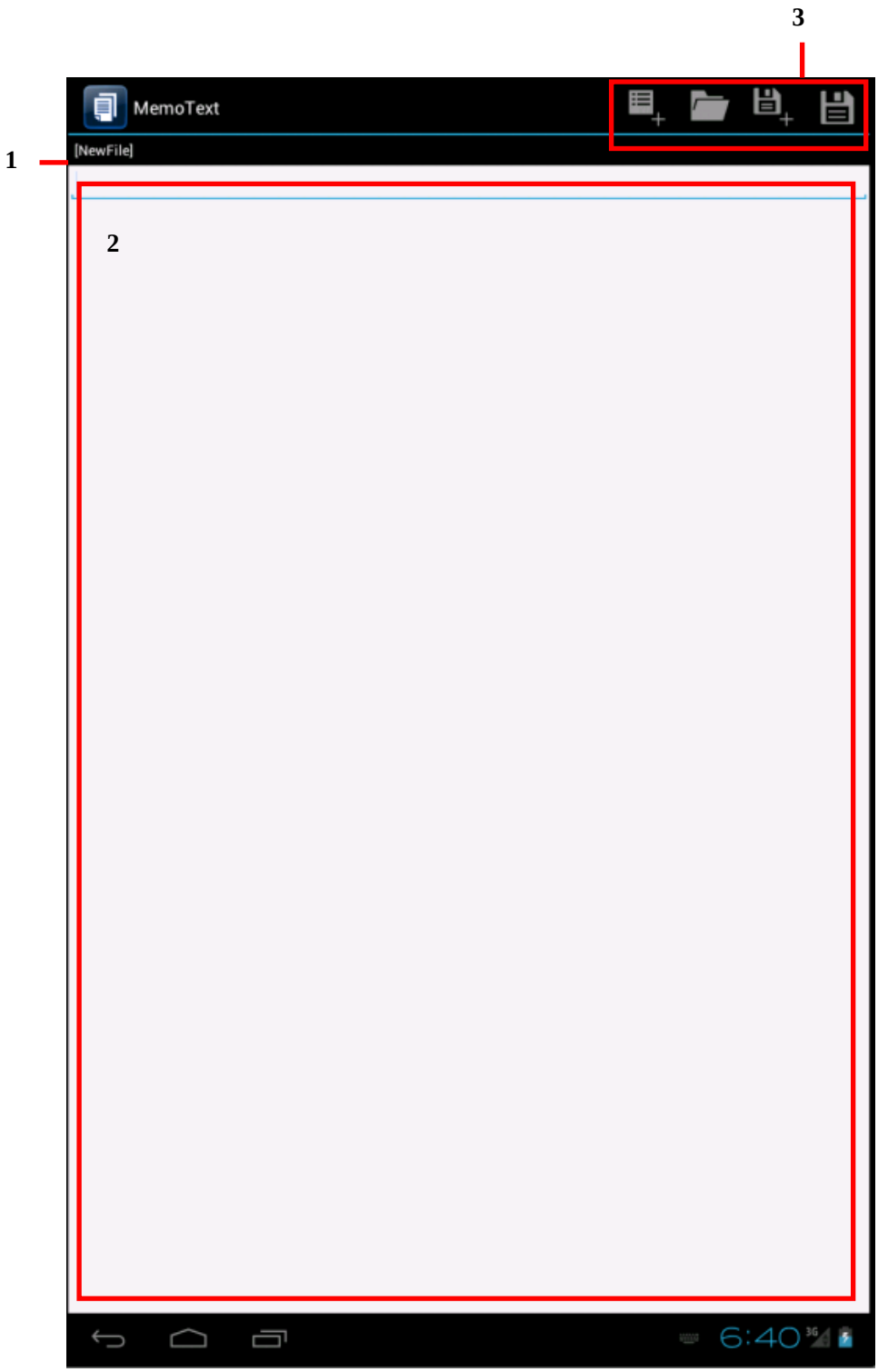


Figure 3.3 Portrait mode

Table 3.3

No.	Item	Description
1	File path information	**New** is displayed when a new file is being created. If a file is being edited, its full path is displayed.
2	Action bar	1) New 2) Open 3) Save As 4) Save
3	Text box	View and edit text

In case an icon on the action bar is pressed and held, text message about the processing associated with the icon appears.

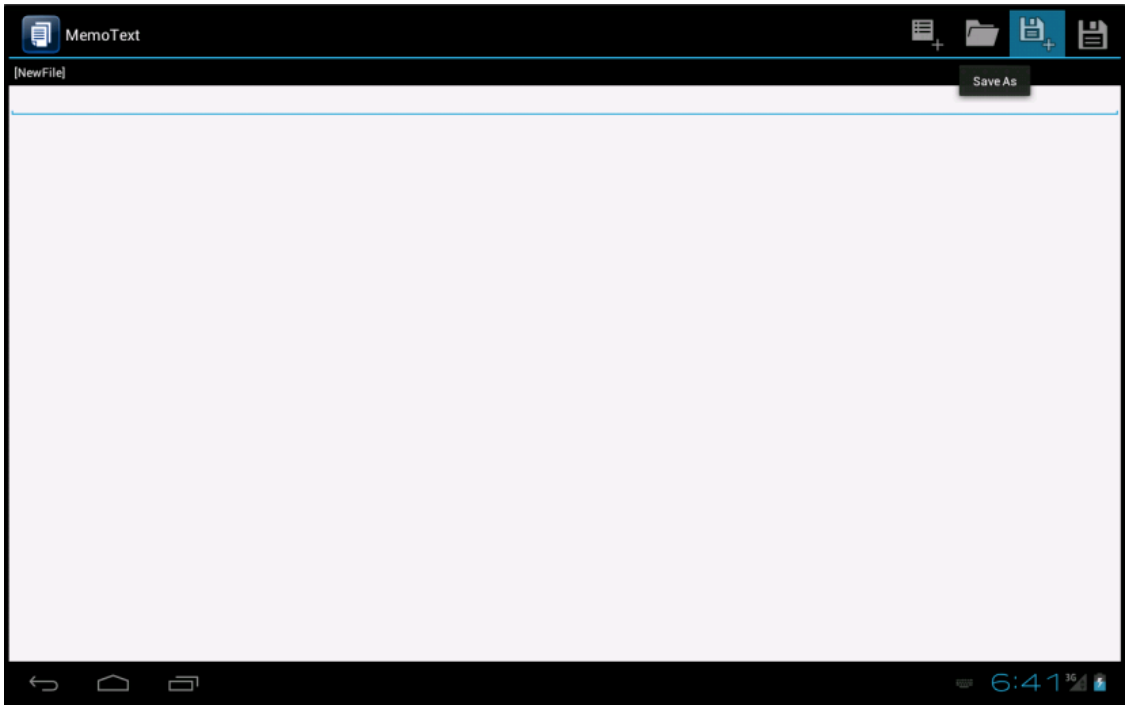


Figure 3.4

Startup from the File Management Application

In the File Management Application, you can select this tool as a text file viewing application.

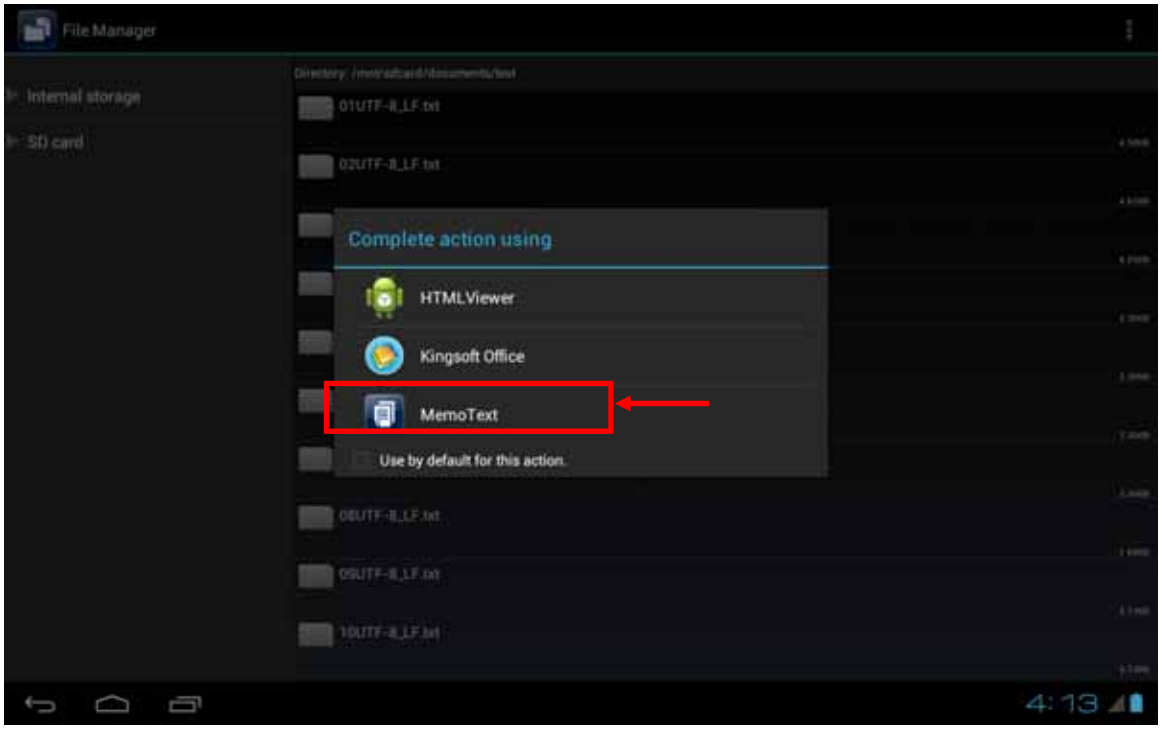


Figure 3.5 If a text file is selected in the File Management Application

<Additional explanation>

The operation of this tool has been verified in **File Manager**, which is the file management application that is installed as standard on tablet terminals.

If you use another file management application, prior verification is required.

New

When you select the **New** icon on the main screen, a confirmation dialog appears. If you select **OK**, the text box is cleared of edits that have been made so far.

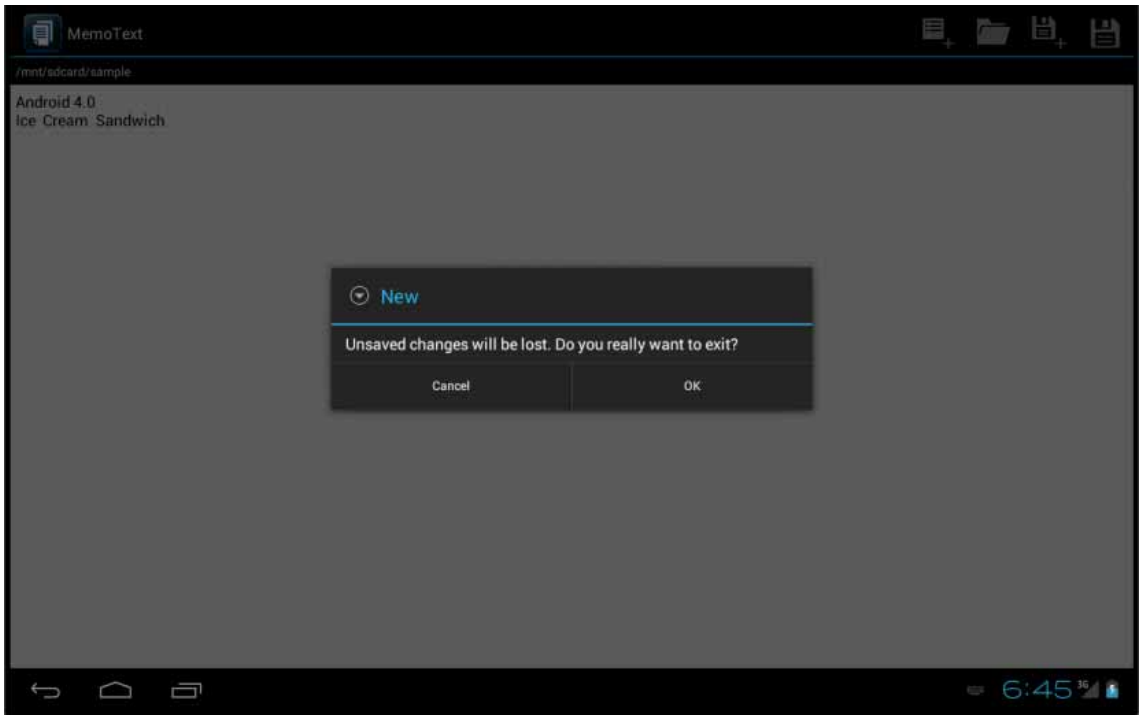


Figure 3.6

The above confirmation dialog appears even if no edit has been made.

Loading a File

When you select the **Open** icon on the main screen, the File Selection screen appears.

Figure 3.7

Table 3.4

No.	Item	Description
1	Folder information	Displays /mnt/sdcard if a new file is being created or the full path of the file that is being edited.
2	Action bar	1) Cancel
3	Character set specification	Use the spinner to select the character set to be used when reading the file. [Character set] UTF-8, UTF-16LE, UTF-16BE, ASCII, SJIS, MS932 [Line feed code] LF/CRLF Note: The initially selected value applies as the attribute of the file being edited. Note: UTF-8, UTF-16LE, and UTF-16BE work correctly regardless of whether BOM is present or absent. Note: Both LF and CRLF work correctly as a line feed code.
4	Folder/file list	If a high-order or low-order folder is selected, the list will change accordingly. The list includes all files without filtering files according to extensions. When you select a file, a selection confirmation dialog, which will be explained later, appears.

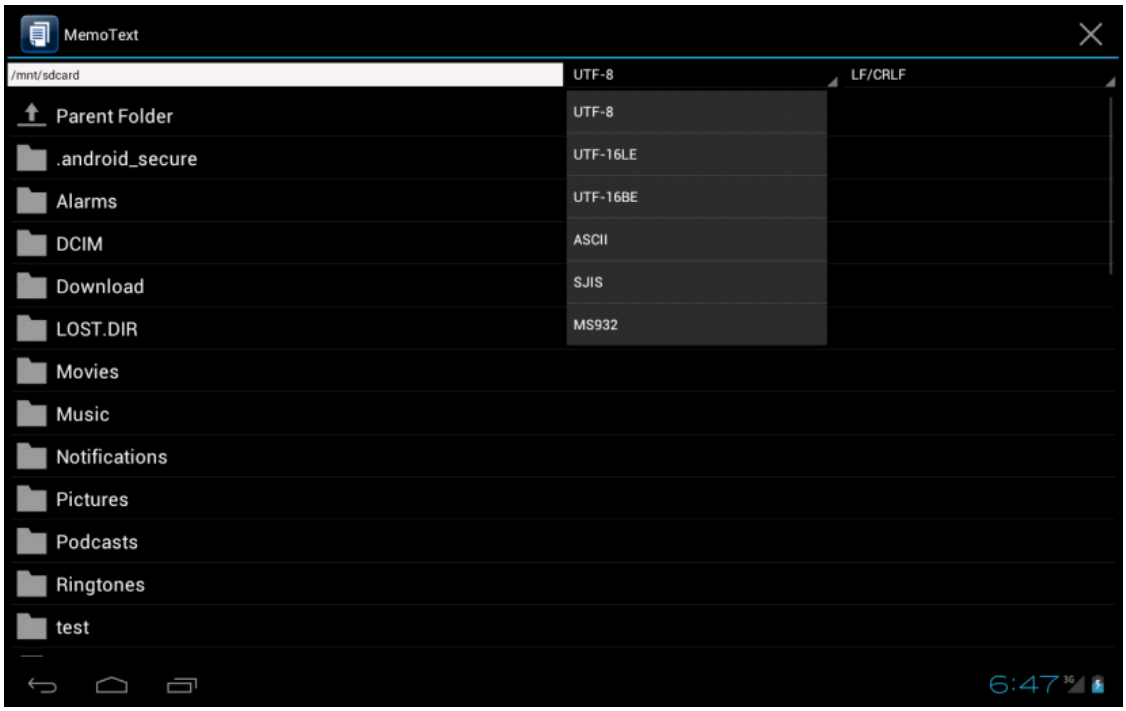


Figure 3.8 Character code selection with a spinner

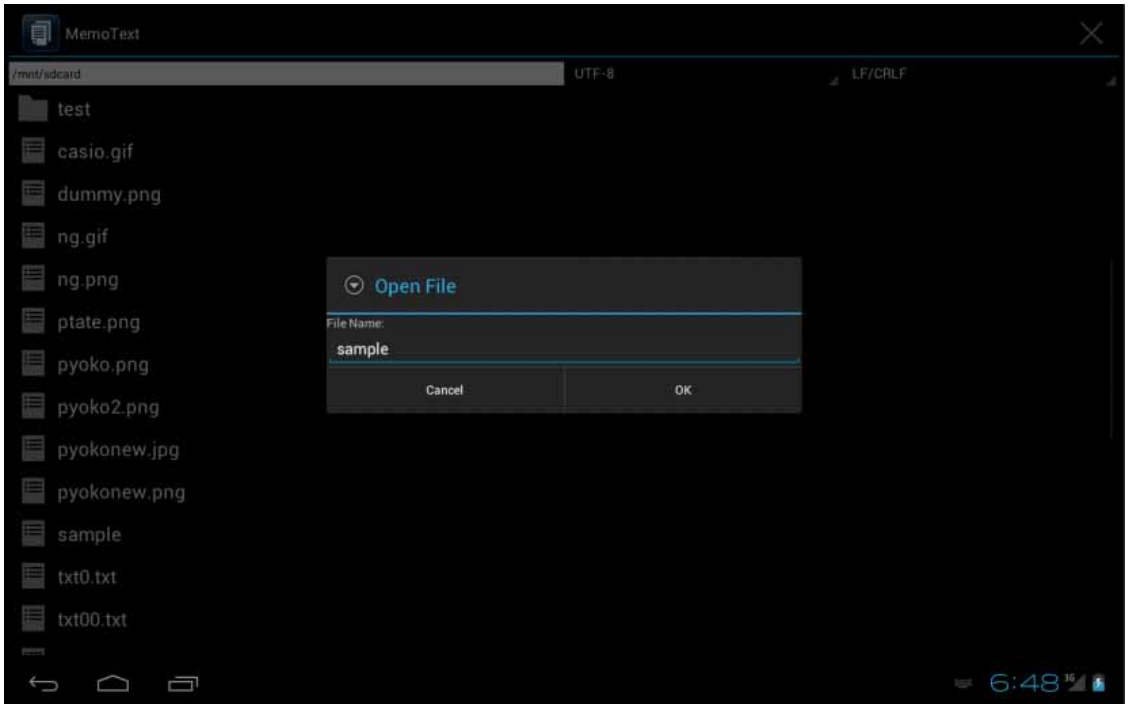


Figure 3.9 Selection confirmation dialog

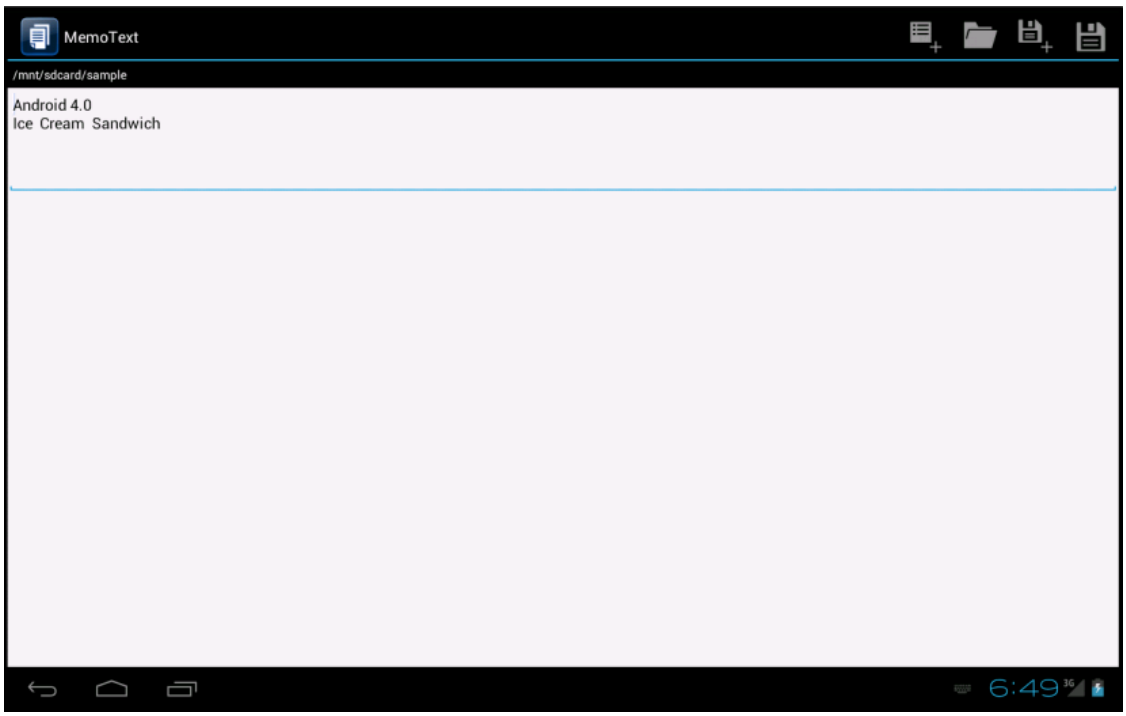


Figure 3.10 File content display

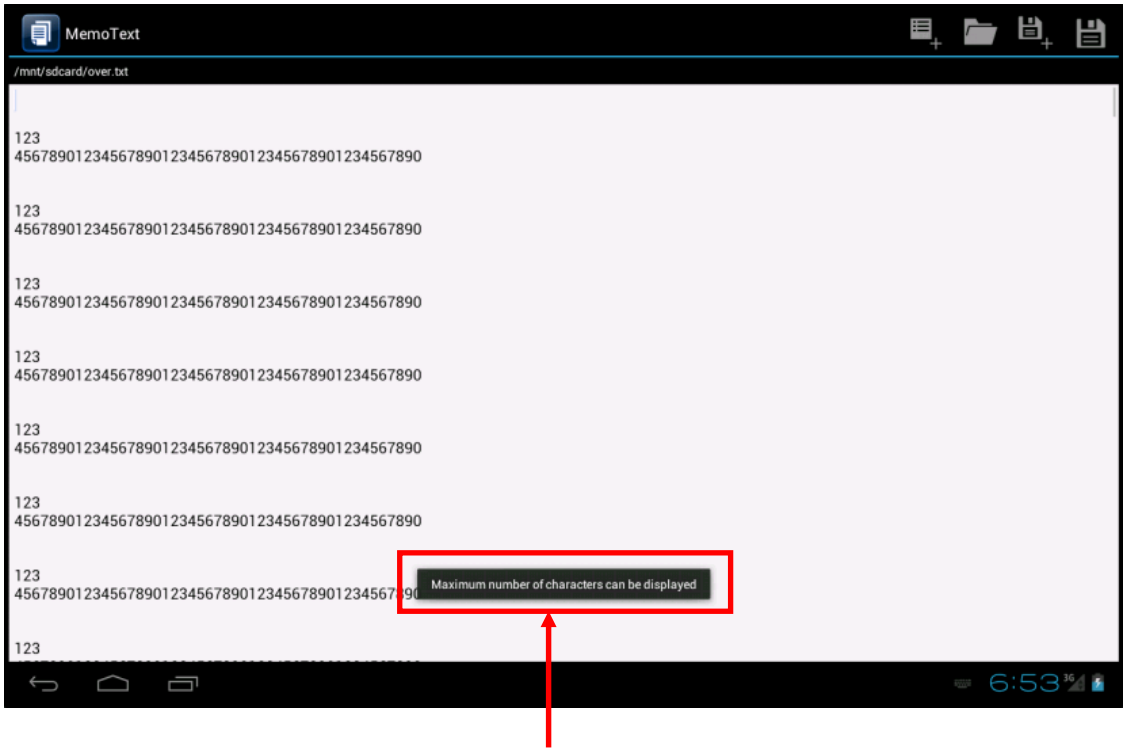


Figure 3.11 If a file that exceeds the limit size in the number of characters is loaded

Saving a File

When you select the **Save** icon on the main screen, the File Selection screen appears.

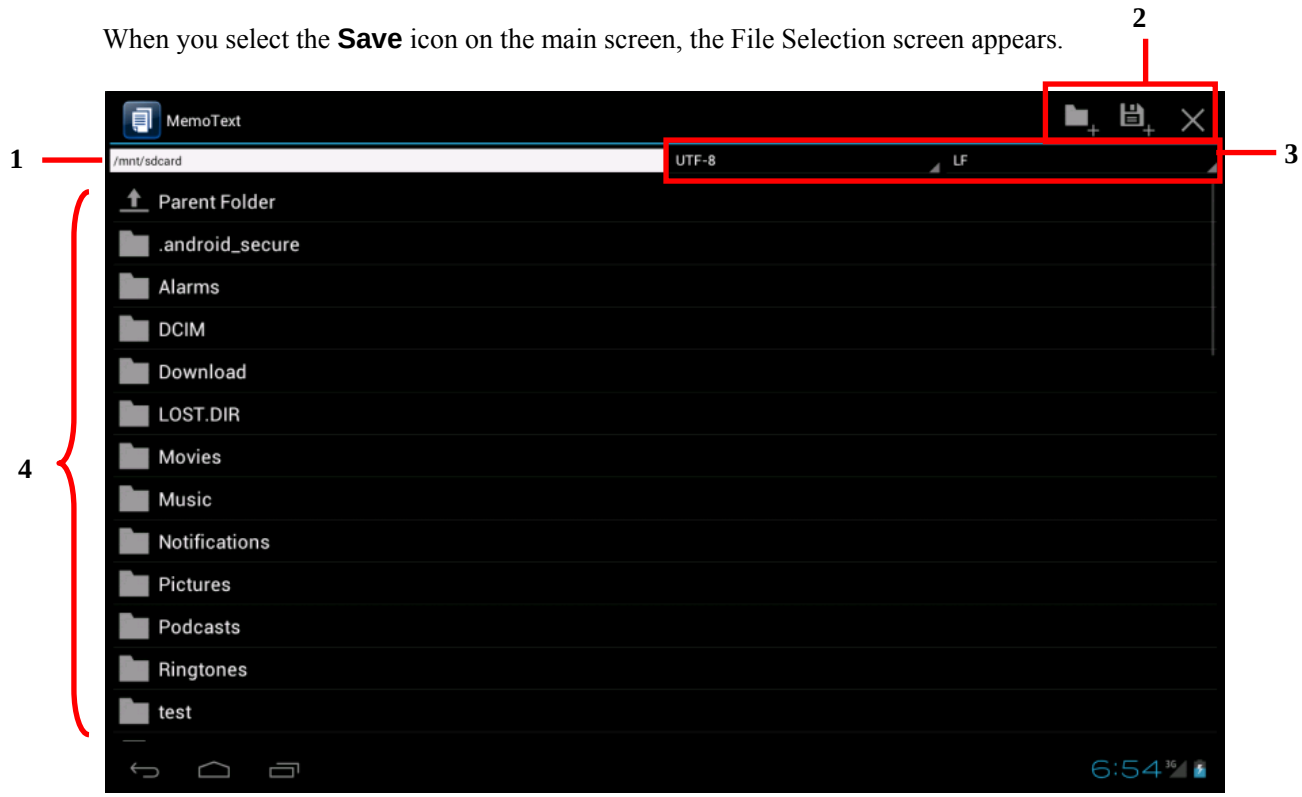


Figure 3.12

Table 3.5

No.	Item	Description
1	Folder information	Displays /mnt/sdcard if a new file is being created or the full path of the file that is being edited.
2	Action bar	1) Create a Folder 2) Save a File 3) Cancel
3	Character set specification	Use the spinner to select the character set to be used when reading the file. [Character set] UTF-8, UTF-8+BOM, UTF-16LE, UTF-16LE+BOM, UTF-16BE, UTF-16BE+BOM,ASCII, SJIS, MS932 [Line feed code] LF, CRLF Note: The initially selected value applies as the attribute of the file being edited.
4	Folder/file list	If a high-order or low-order folder is selected, the list will change accordingly. The list includes all files without filtering files according to extensions. When you select a file, a selection confirmation dialog, which will be explained later, appears.

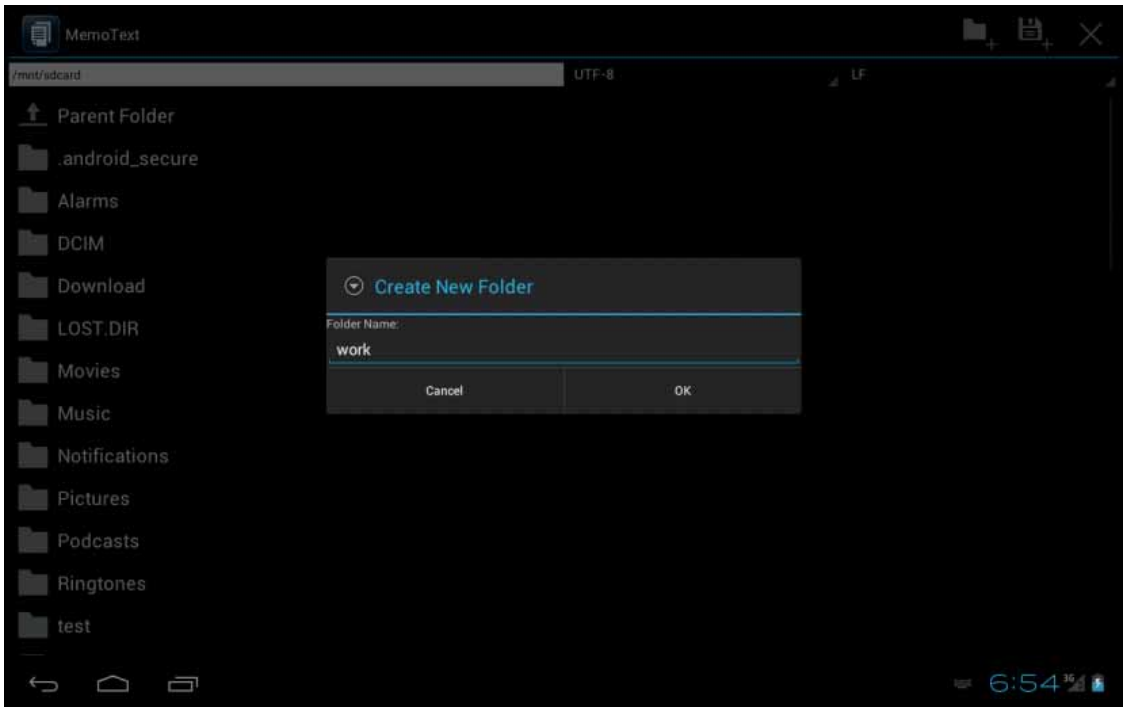


Figure 3.13 Folder creation confirmation dialog

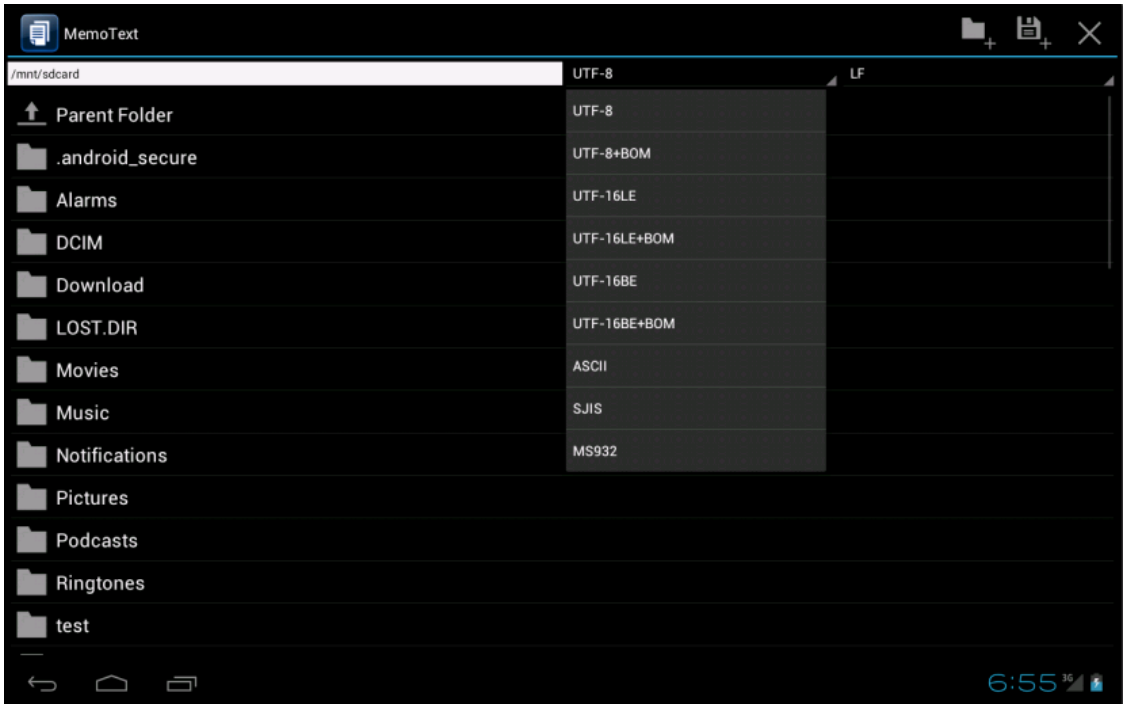


Figure 3.14 Character set selection with a spinner

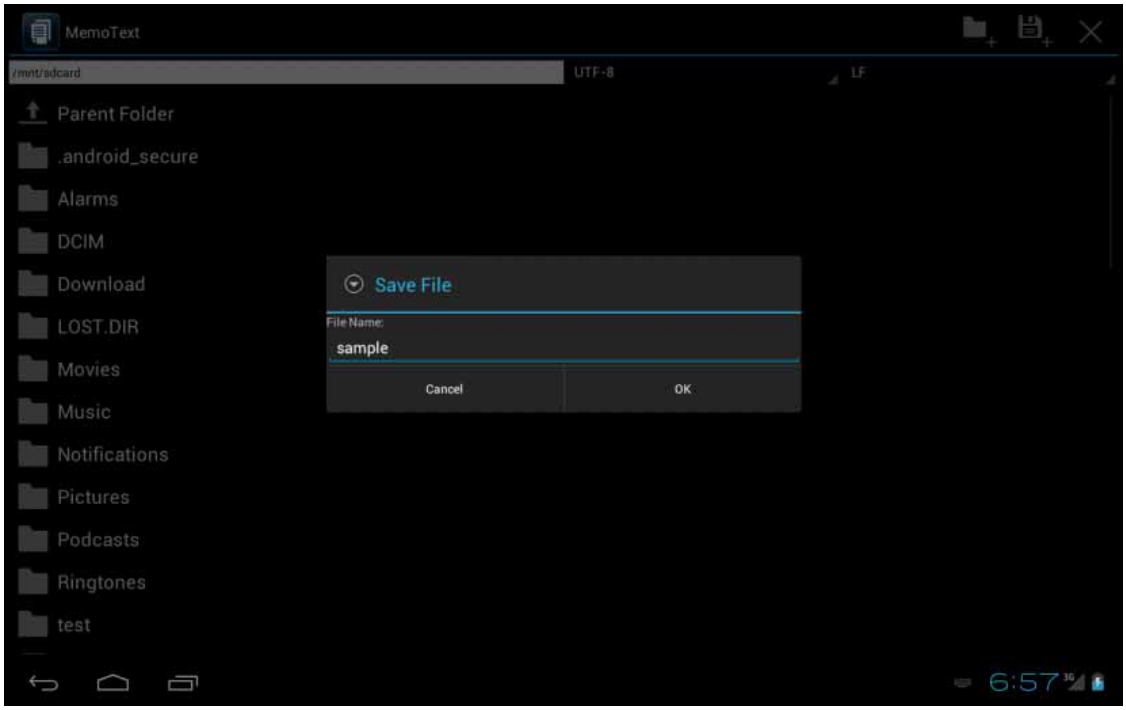


Figure 3.15 Selection confirmation dialog

The confirmation dialog displays file names according to the following behavior:

A) If a file is selected from the list view containing the folder/file list, the name of the selected file is displayed.
B) If **Save File** on the action bar is selected:
B-1 Blank is displayed if **New** is displayed on the main screen.
B-2 If a full path is displayed on the main screen, the name of the pertinent file is displayed.

Save

When you select the **Save** icon on the main screen, the loaded file, if it is being edited, is saved on the assumption that the character code information that has been read for the file is left unchanged.
If the file is being created, the save operation is similar to the Save As operation.

Text Editing Functions

Cut, copy, and paste operations, which are standard Android operations, can be performed.

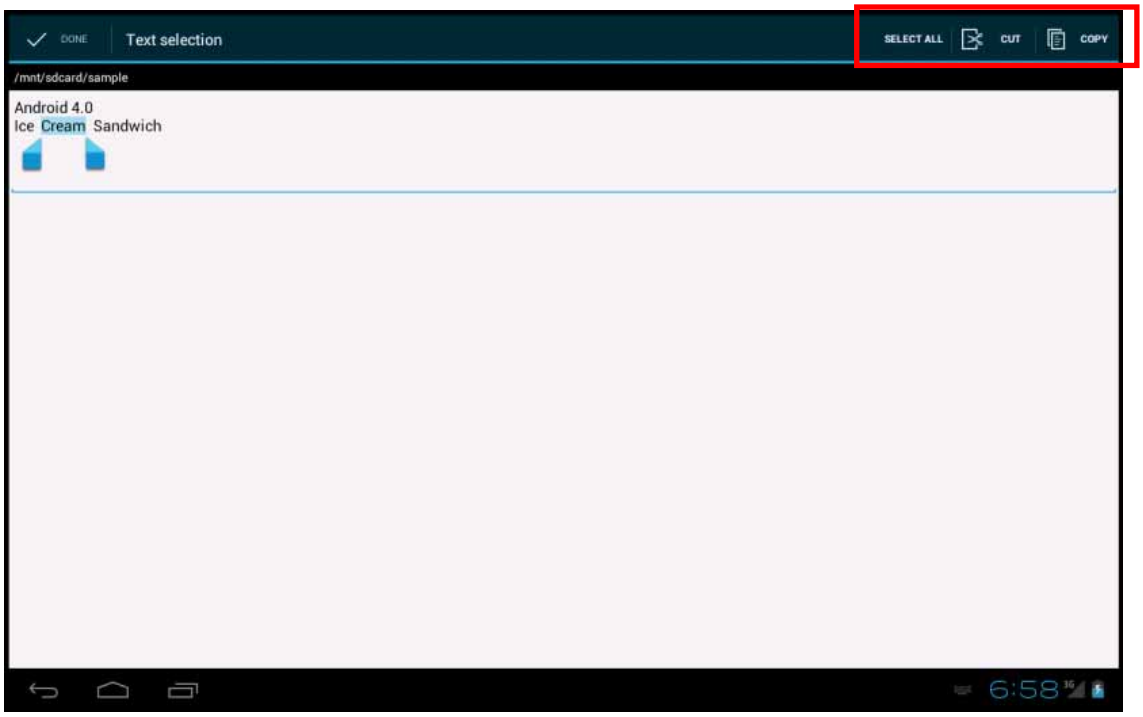


Figure 3.16

Back Key Operation

Upon a back key operation, a confirmation dialog is displayed. If **OK** is selected, the application is terminated.

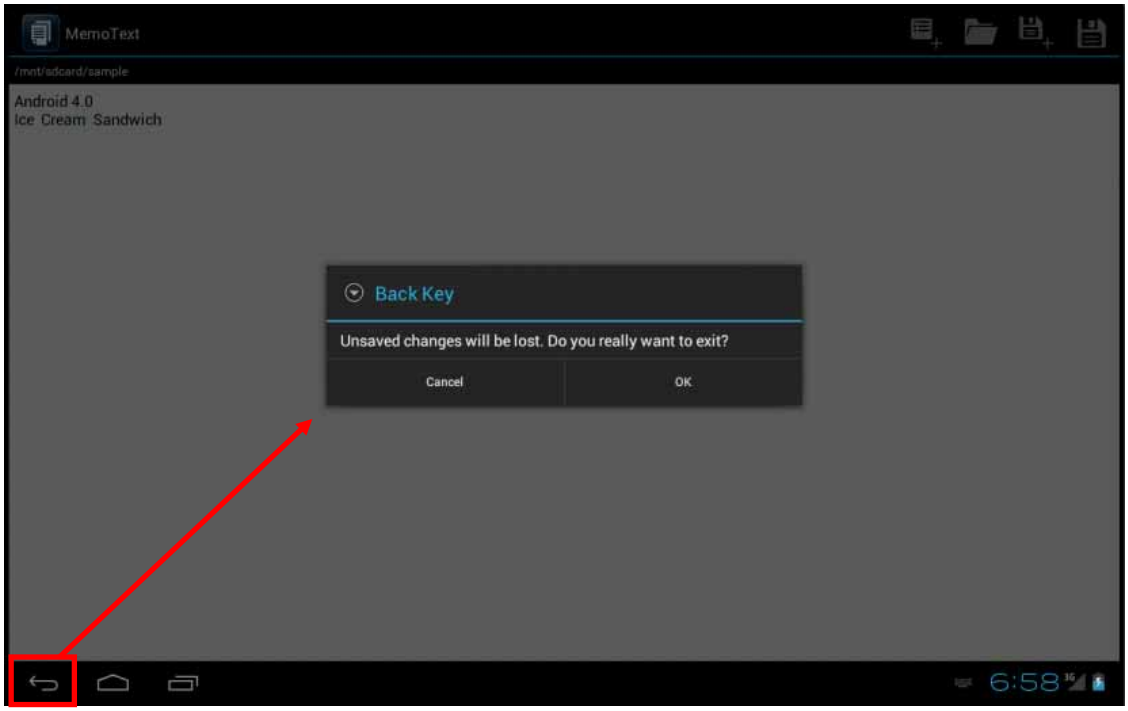
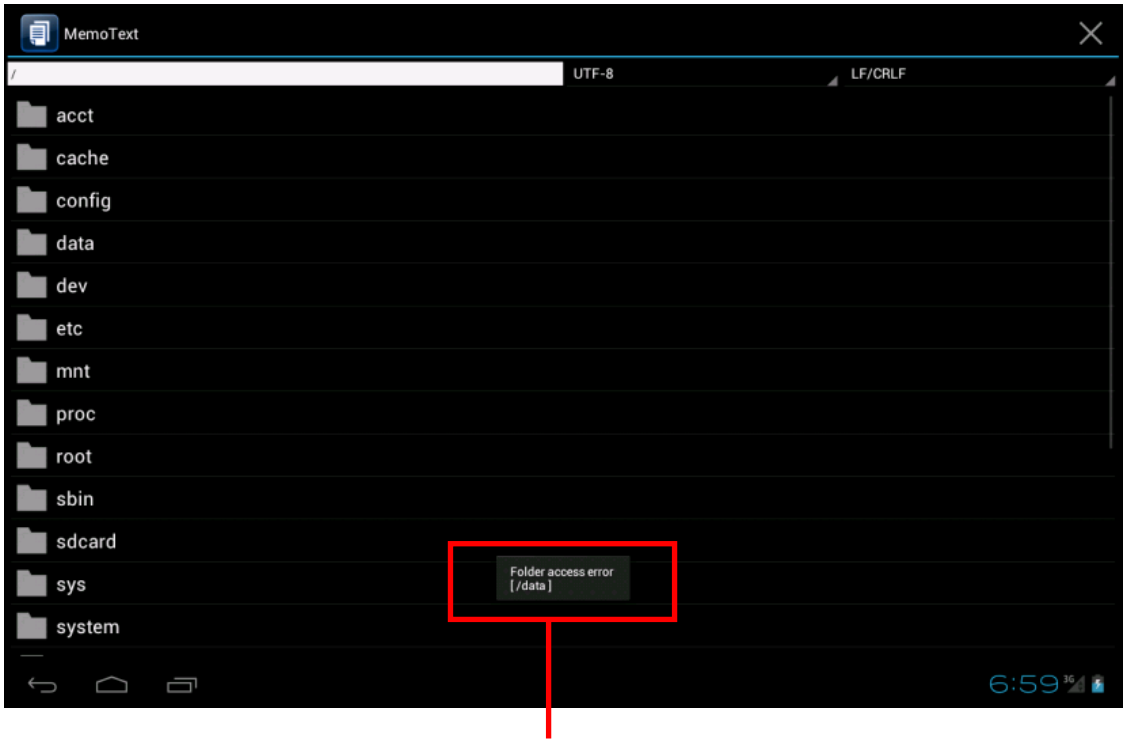


Figure 3.17

The above confirmation dialog appears even if no edit has been made.

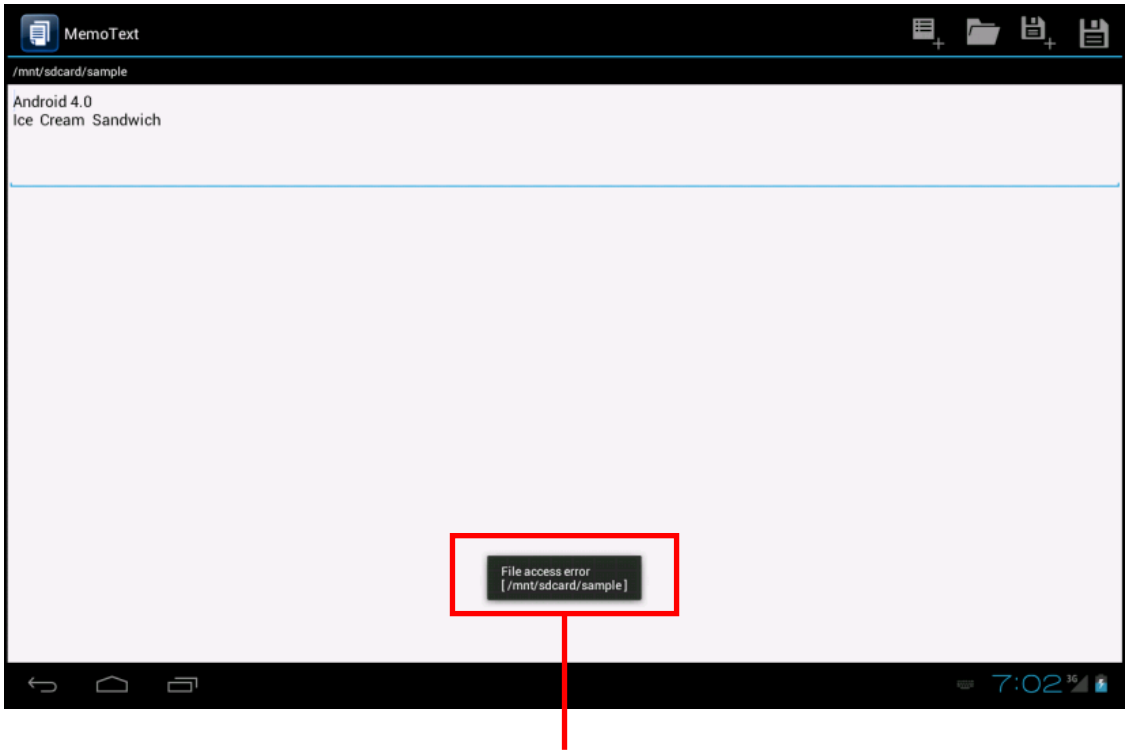
Error Display

If file selection, file creation, or other processing fails for an access permission related or other reason, the following toast display (which will fade out in a certain period of time) appears:



The second line shows the path of the operation target folder.

Figure 3.18 When a folder is selected



The second line shows the path of the operation target file.

Figure 3.19 When a file is accessed

3.4 Memo Paint

Overview

Basic Functions

1) File Input/Output

This function reads files in the PNG/JPG format and saves them.

In Android, system folders/files and application folders/files are assigned access permissions individually. Ordinary applications are inhibited from reading or updating files of other applications. (Security is thus ensured.)
This means that this tool generally acts on folders/files included in the storage.

2) Handwriting Entry

Screen touch trajectories are drawn.

3) Drawing Attribute Specification

Line thicknesses (8 options) and line colors (9 options) can be selected.

4) Input Type Control

Digitizer pen input and finger input can be identified.
For each input type, you can specify line colors.

5) Multiple-touch Control

You can draw ten lines at the same time.
(This means that you can touch your ten fingers on the screen at the same time to draw.)
Multiple-touch control works for touches of the same input type (for example, fingers only).
For example, if you touch the screen with the digitizer pen while drawing with fingers, the touch with the digitizer pen is ignored.

6) Image Rotation

You can rotate the image 90 degrees clockwise while leaving the tablet orientation as is.

7) Redo

You can undo/redo the just previous operation.

8) Localization

If Japanese is selected as the language, various kinds of data are displayed in Japanese.
If another language is selected, various kinds of data are displayed in English.

9) Control According to Tablet Rotation

The landscape or portrait layout is automatically selected according to the tablet orientation.

Operation Specification

Startup

MemoPaint, the package name of which is jp.casio.vx.util.memo.paint, can be started up from the Home Application.

It is also possible to start up **MemoPaint** by assigning the file name to the explicit intent argument.

Table 3.6

Intent name	FILEPATH
Value	Full path of the target text file

Main Screen

If **MemoPaint** is started up from the Home Application, it is in new file creation mode, showing a full screen size blank area.

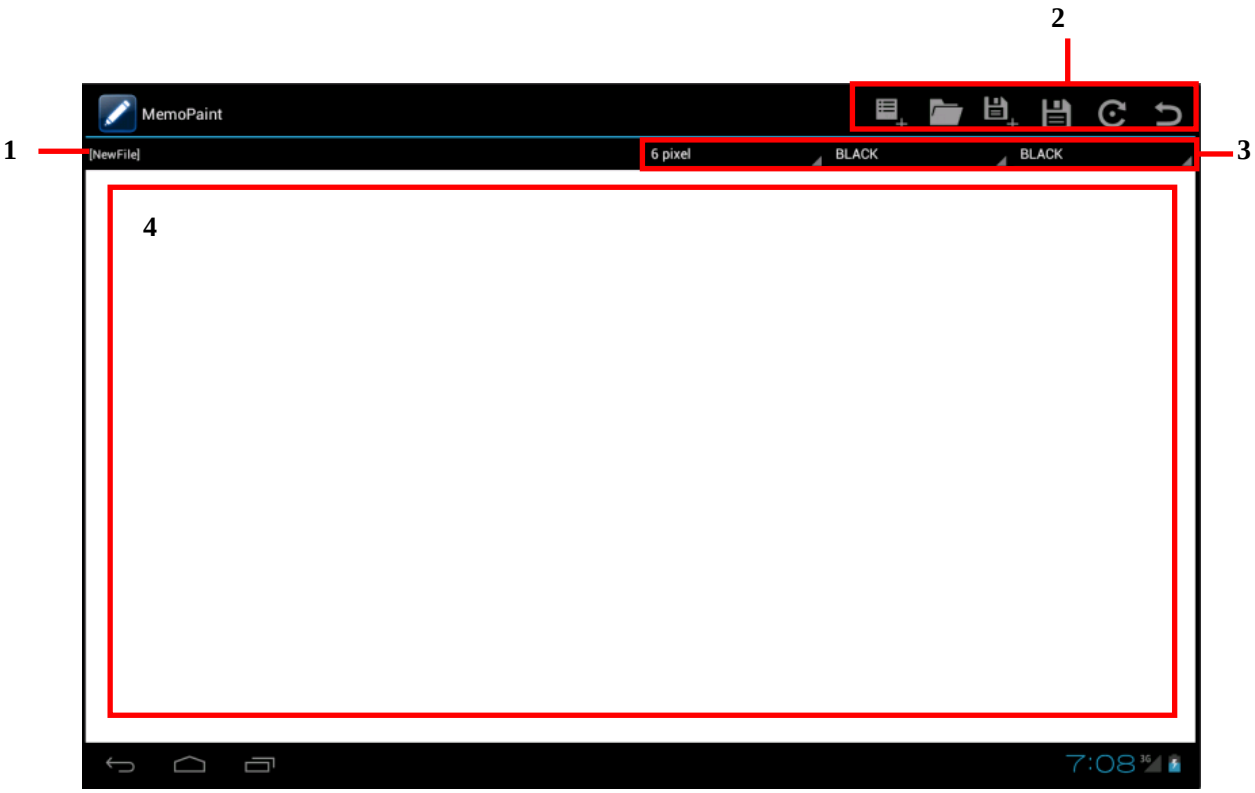


Figure 3.20 Landscape mode

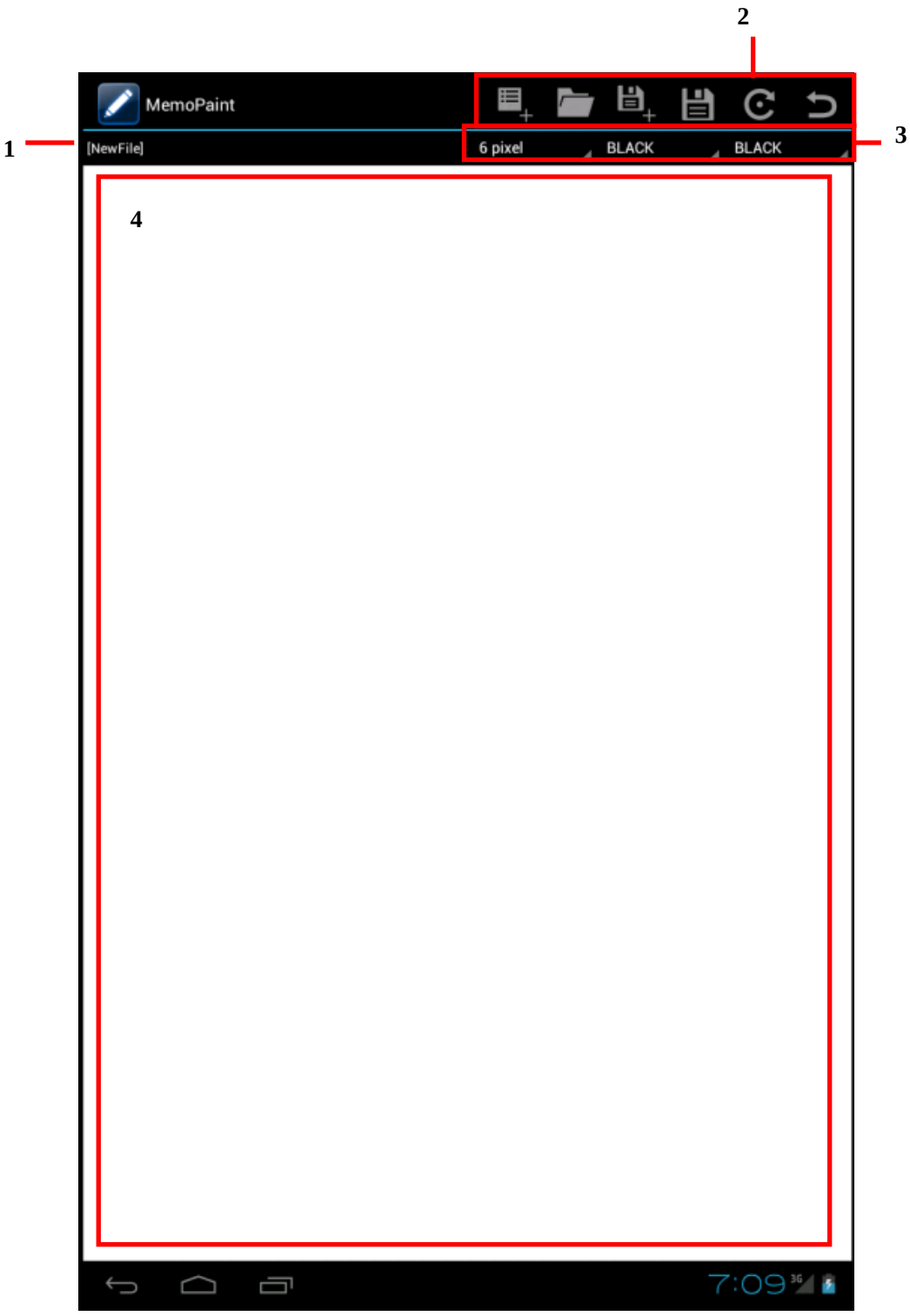


Figure 3.21 Portrait mode

Table 3.7

No.	Item	Description
1	File path information	**New** is displayed when a new file is being created. If a file is being edited, its full path is displayed.
2	Action bar	1) New 2) Open 3) Save As 4) Save 5) Rotate 6) Redo
3	Drawing attribute	1) Line thicknesses [8 options] 1, 2, 4, 6, 8, 10, 20, and 30 pixels 2) Finger touch line colors [9 options] Black, blue, cyan, gray, green, red, magenta, yellow, and white 3) Digitizer pen line colors [9 options] Same as 2) above
4	Canvas	Paint canvas

In case an icon on the action bar is pressed and held, text message about the processing associated with the icon appears.

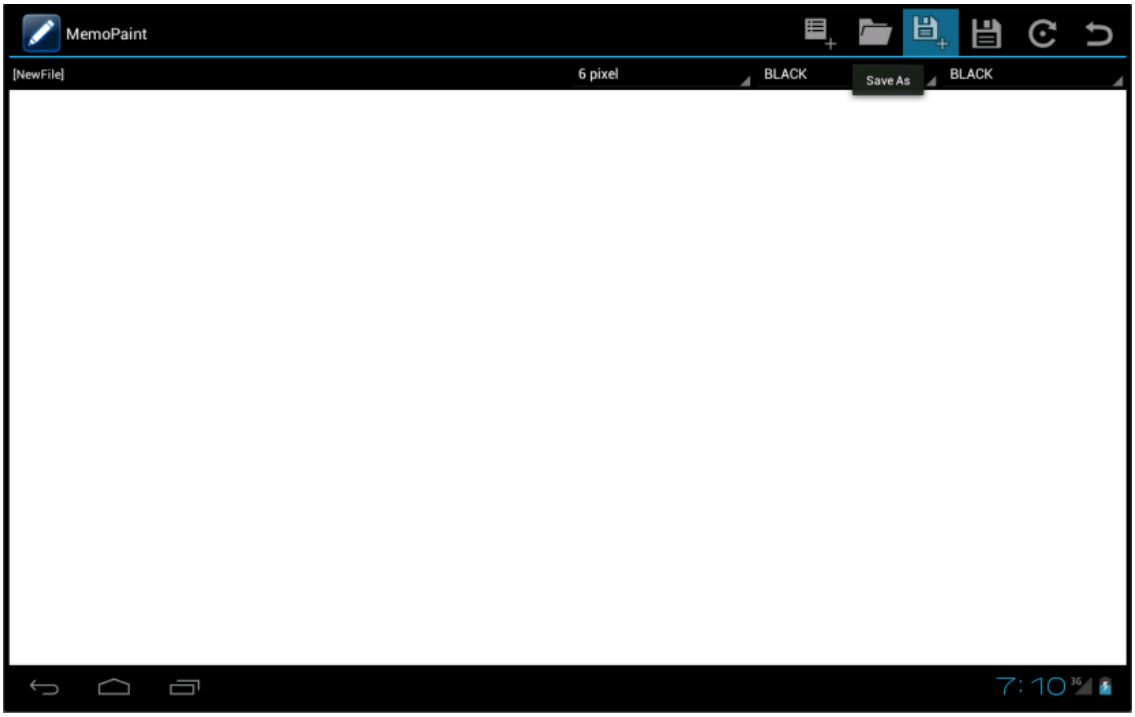


Figure 3.22

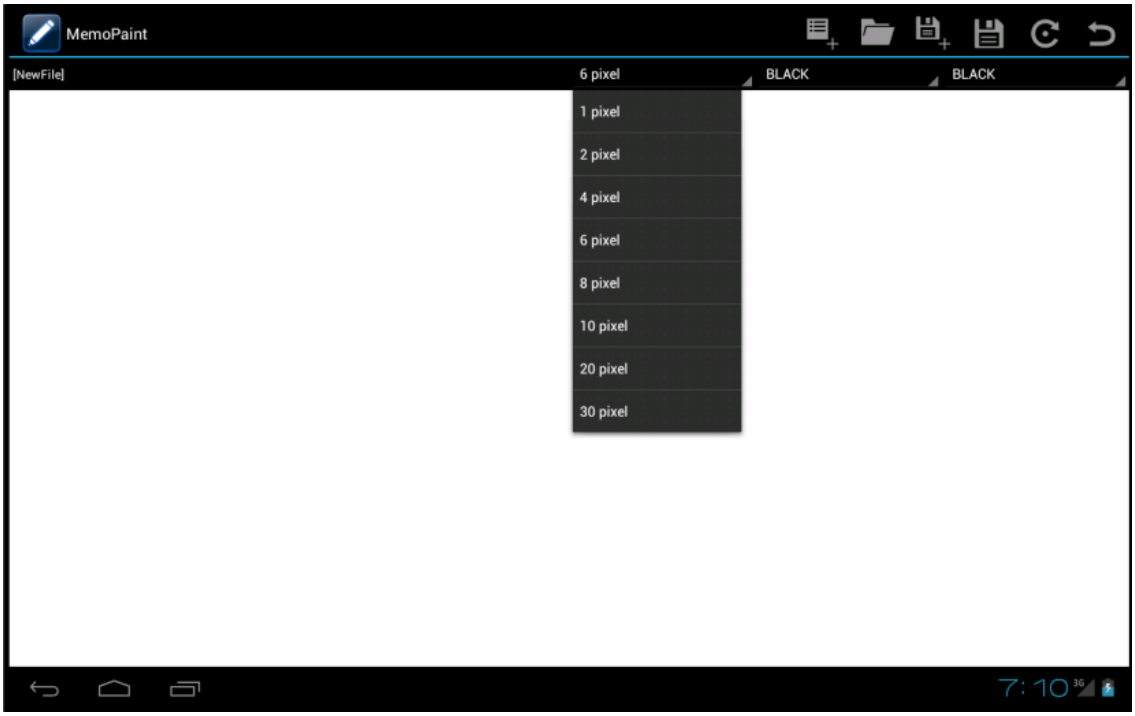


Figure 3.23 Line thickness selection with a spinner

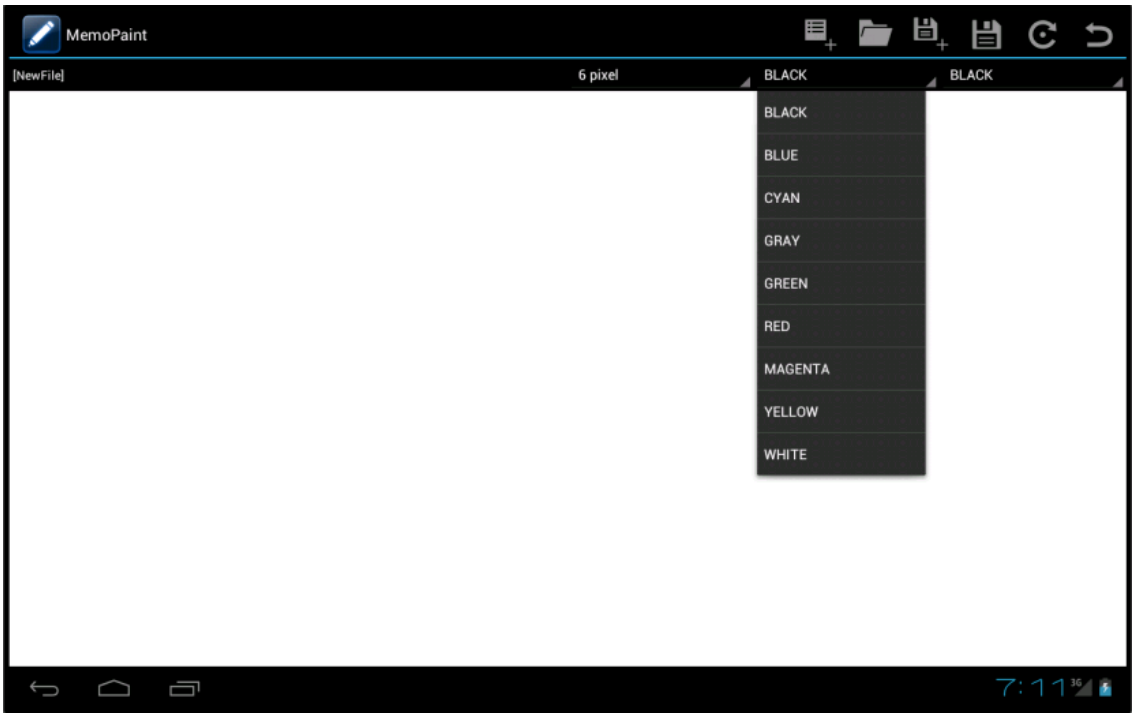


Figure 3.24 Line color selection with a spinner

New

When you select the **New** icon on the main screen, a confirmation dialog appears. If you select **OK**, the current drawing area becomes a white canvas cleared of edits that have been made so far.

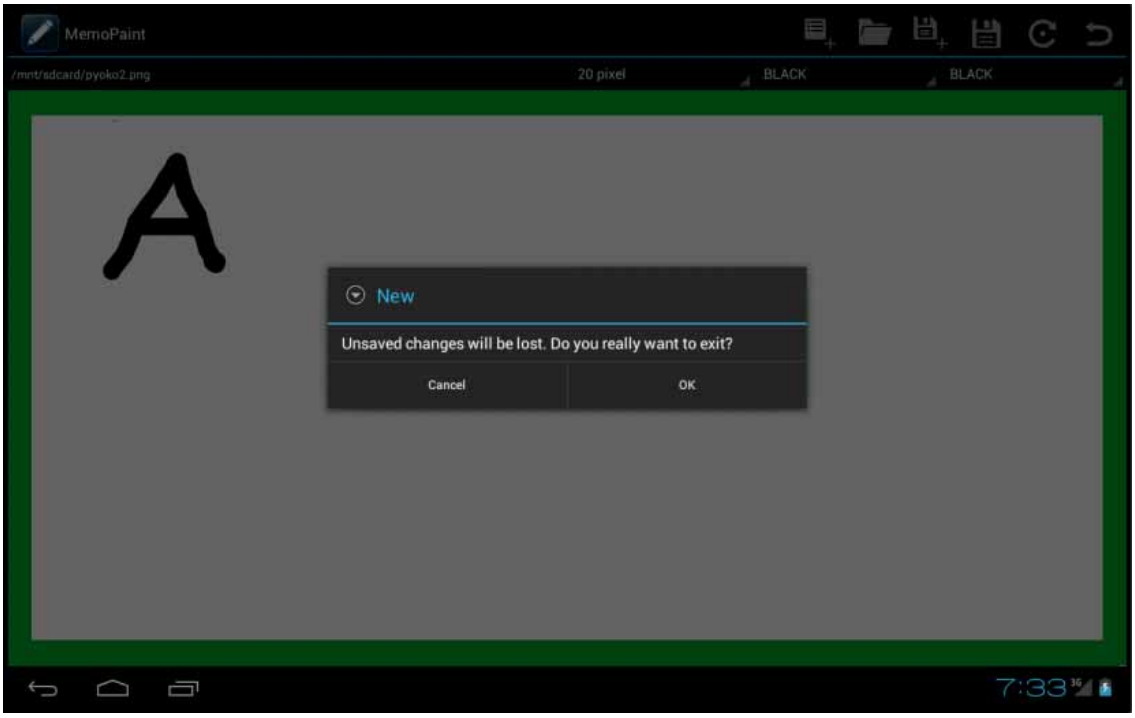


Figure 3.25

The above confirmation dialog appears even if no edit has been made.

If a terminal that is started to be in the landscape layout is rotated to the portrait layout, the canvas size does not change so that the data being edited is held.
If a new file is created in this condition, a screen-size canvas will be recreated according to the current terminal orientation.

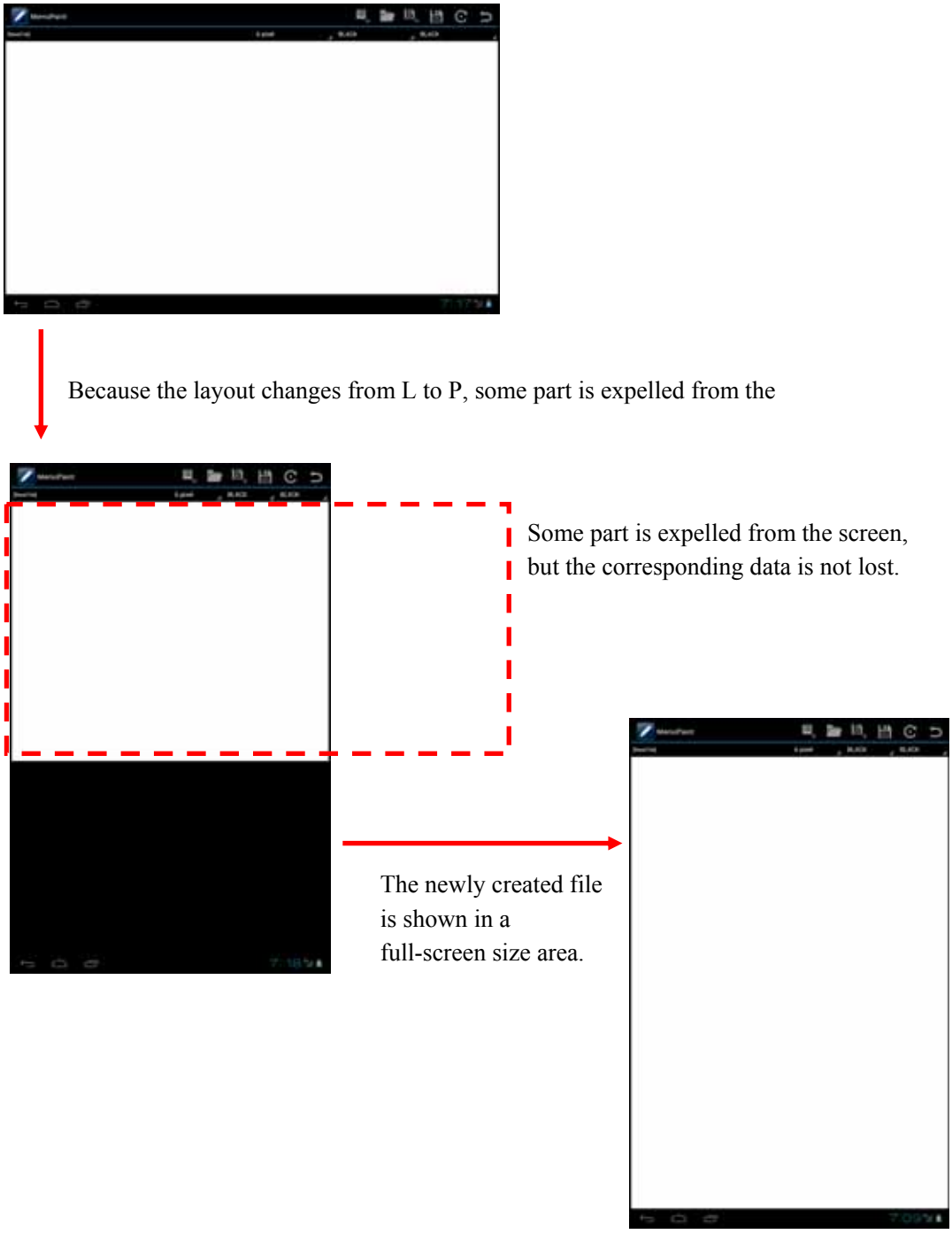

Because the layout changes from L to P, some part is expelled from the
Some part is expelled from the screen, but the corresponding data is not lost.
The newly created file is shown in a full-screen size area.

Figure 3.26

Loading a File

When you select the **Open** icon on the main screen, the File Selection screen appears.

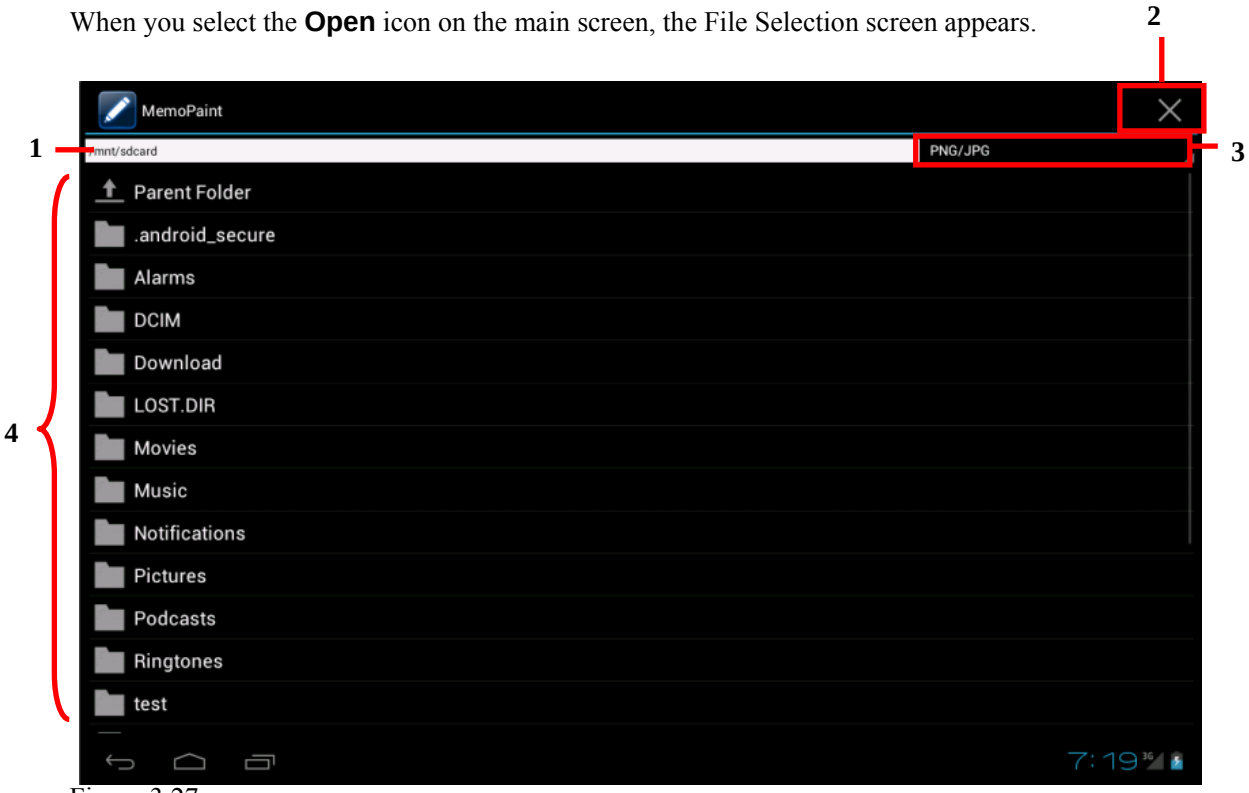


Figure 3.27

Table 3.8

No.	Item	Description
1	Folder information	Displays the /mnt/sdcard if a new file is being created or the full path of the file that is being edited.
2	Action bar	1) Cancel
3	Image format	Select an image format with a spinner. PNG or JPG Note: When a file is loaded, its format is judged by its extension.
4	Folder/file list	If a high-order or low-order folder is selected, the list will change accordingly. The list includes files that have been filtered to select files with the PNG or JPG extension. When you select a file, a selection confirmation dialog, which will be explained later, appears.

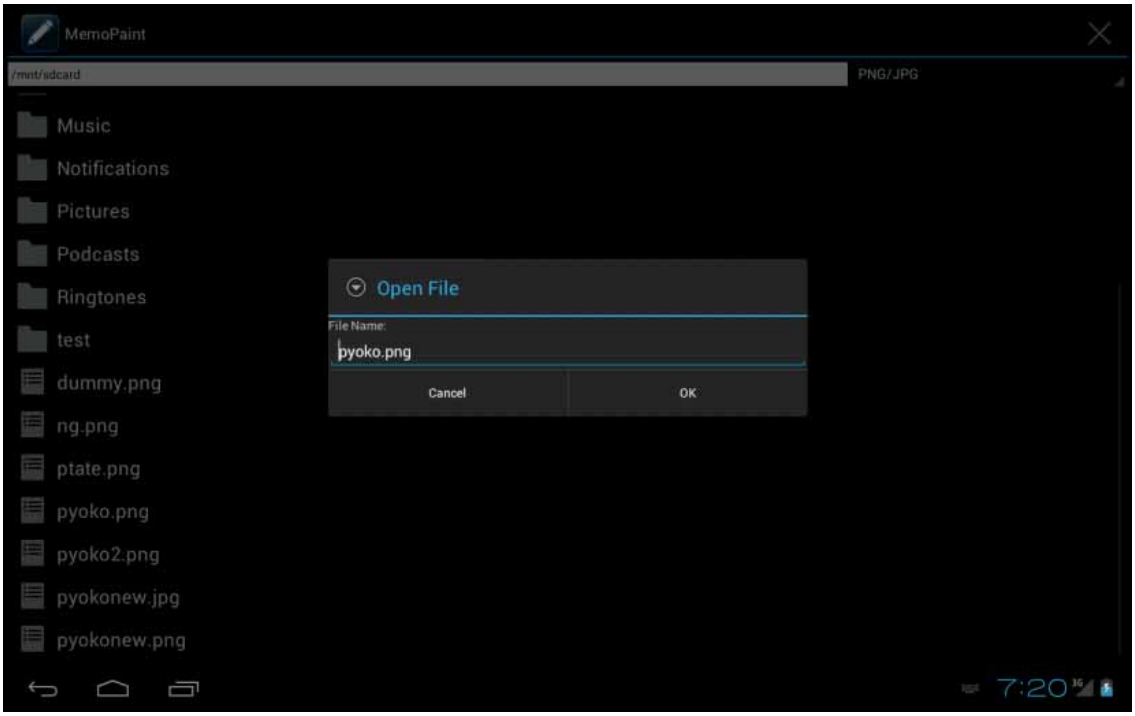


Figure 3.28 Selection confirmation dialog

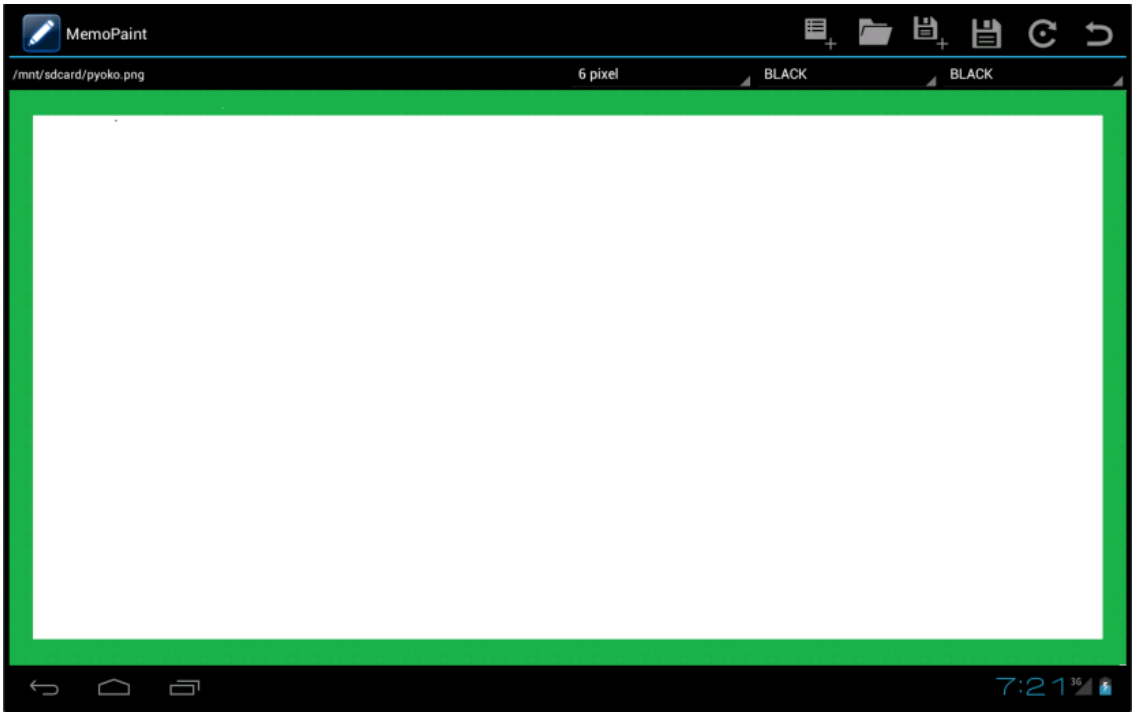


Figure 3.29 File content display

If a file is loaded in a layout different from the layout as it stood when the file was saved, you can display the file in full-screen size by rotating the terminal to attain the save-time layout.

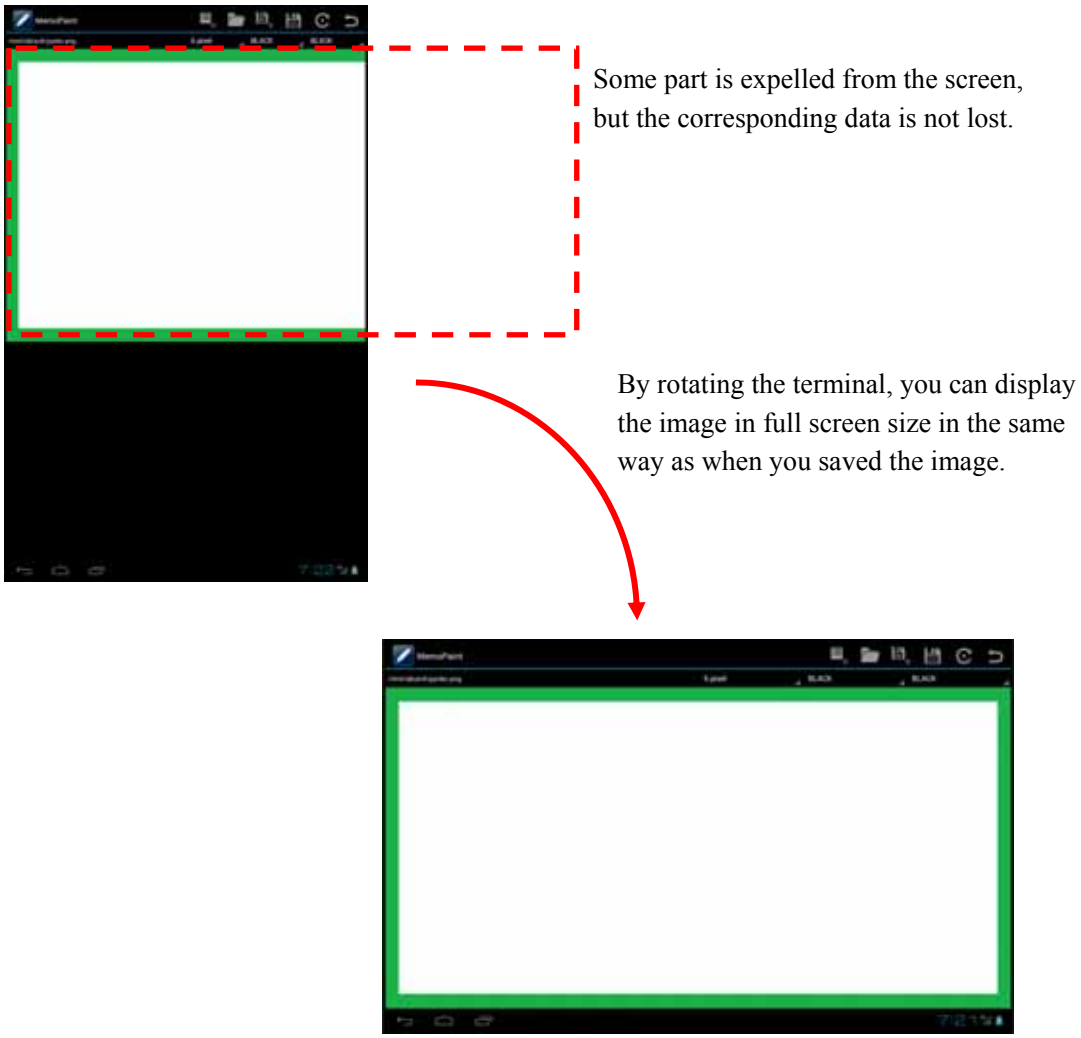

Some part is expelled from the screen, but the corresponding data is not lost.
By rotating the terminal, you can display the image in full screen size in the same way as when you saved the image.

Figure 3.30 Loading a landscape image in the portrait layout

Saving a File

When you select the **Save** icon on the main screen, the File Selection screen appears.

Figure 3.31

Table 3.9

No.	Item	Description
1	Folder information	Displays /mnt/sdcard if a new file is being created or the full path of the file that is being edited.
2	Action bar	1) Create a Folder 2) Save the File 3) Cancel
3	Image format	Select an image format with a spinner. PNG or JPG Note: The initially selected value applies as the format of the file being edited.
4	Folder/file list	If a high-order or low-order folder is selected, the list will change accordingly. The list includes files that have been filtered to select files with the PNG or JPG extension. When you select a file, a selection confirmation dialog, which will be explained later, appears.

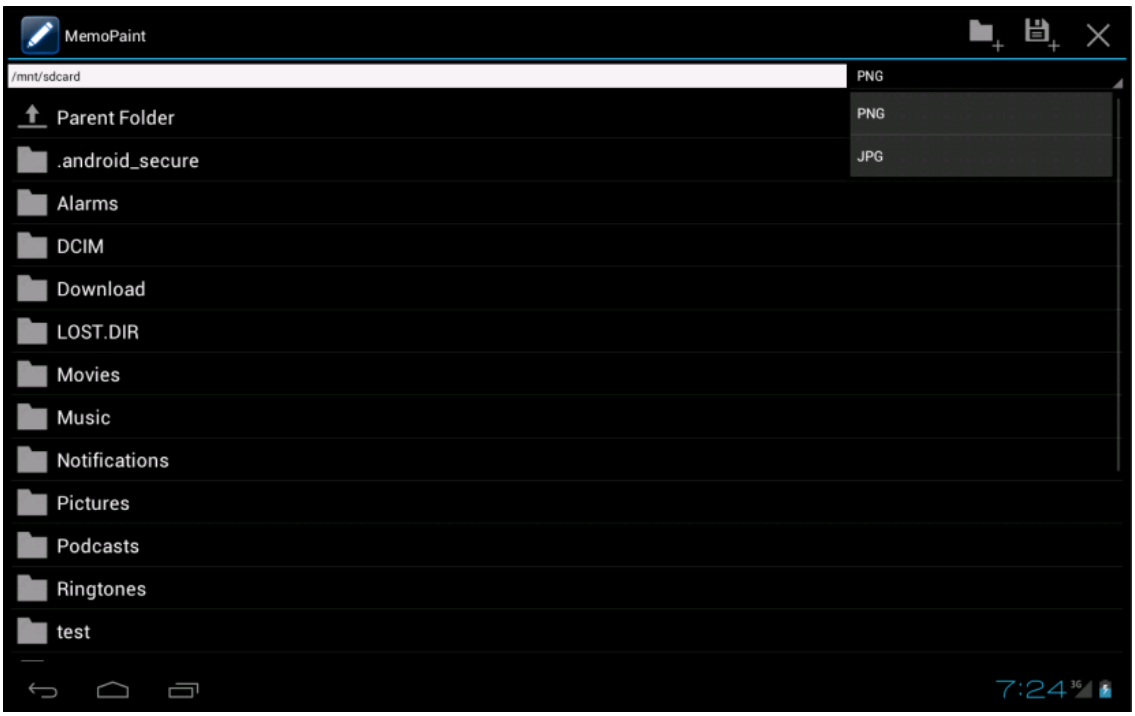


Figure 3.32 Image format selection with a spinner

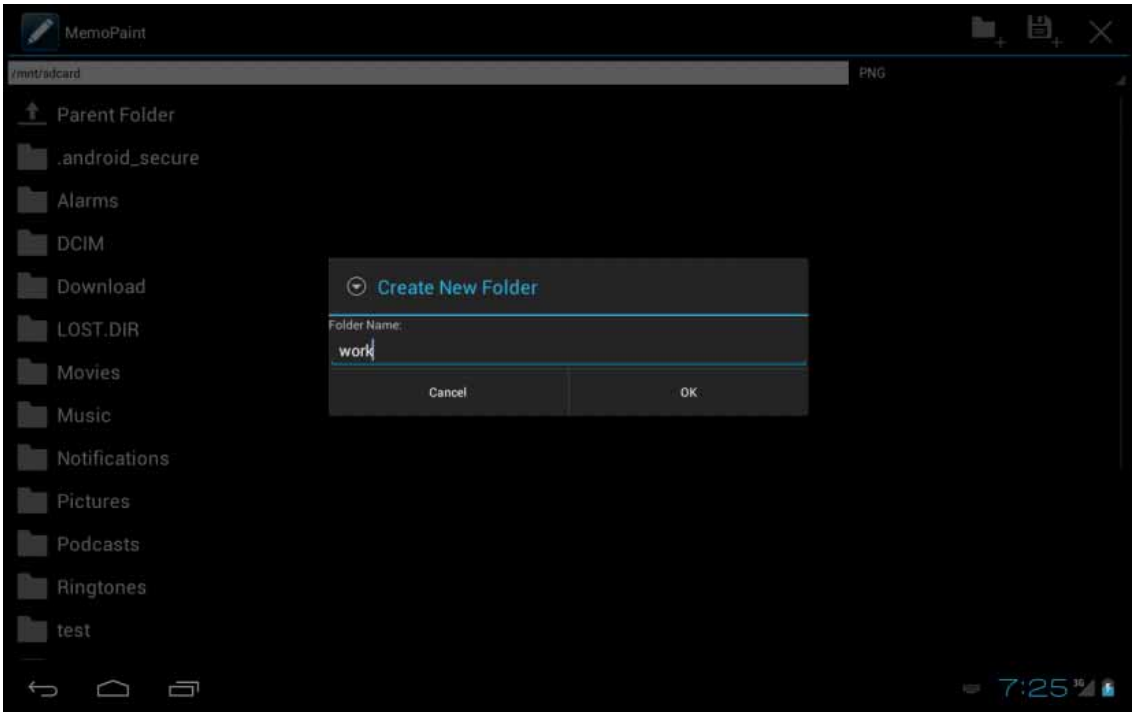


Figure 3.33 Folder creation confirmation dialog

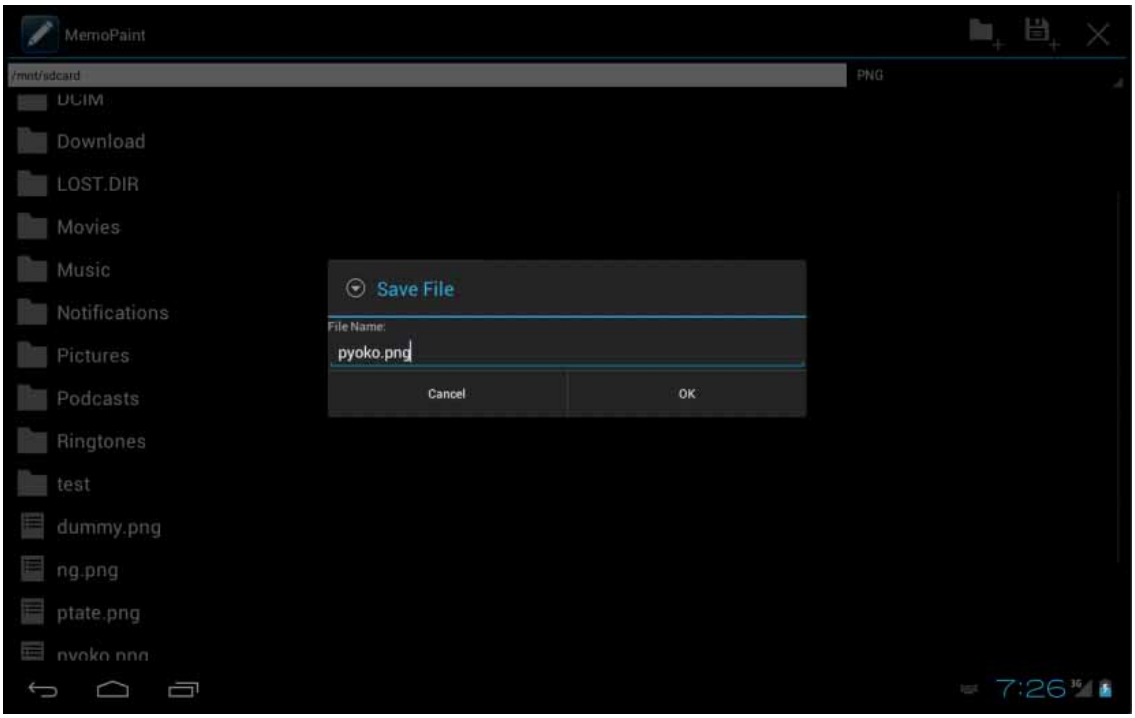


Figure 3.34 Selection confirmation dialog

The confirmation dialog displays file names according to the following behavior:

A) If a file is selected from the list view containing the folder/file list, the name of the selected file is displayed.
B) If **Save File** on the action bar is selected:
B-1 Bland is displayed if **New** is displayed on the main screen.
B-2 If a full path is displayed on the main screen, the name of the pertinent file is displayed.

Save

When you select the **Save** icon on the main screen, the loaded file, if it is being edited, is saved on the assumption that the image format information that has been read for the file is left unchanged.
If the file is being created, the save operation is similar to the Save As operation.

Rotate

Rotates the image 90 degrees clockwise at one time.

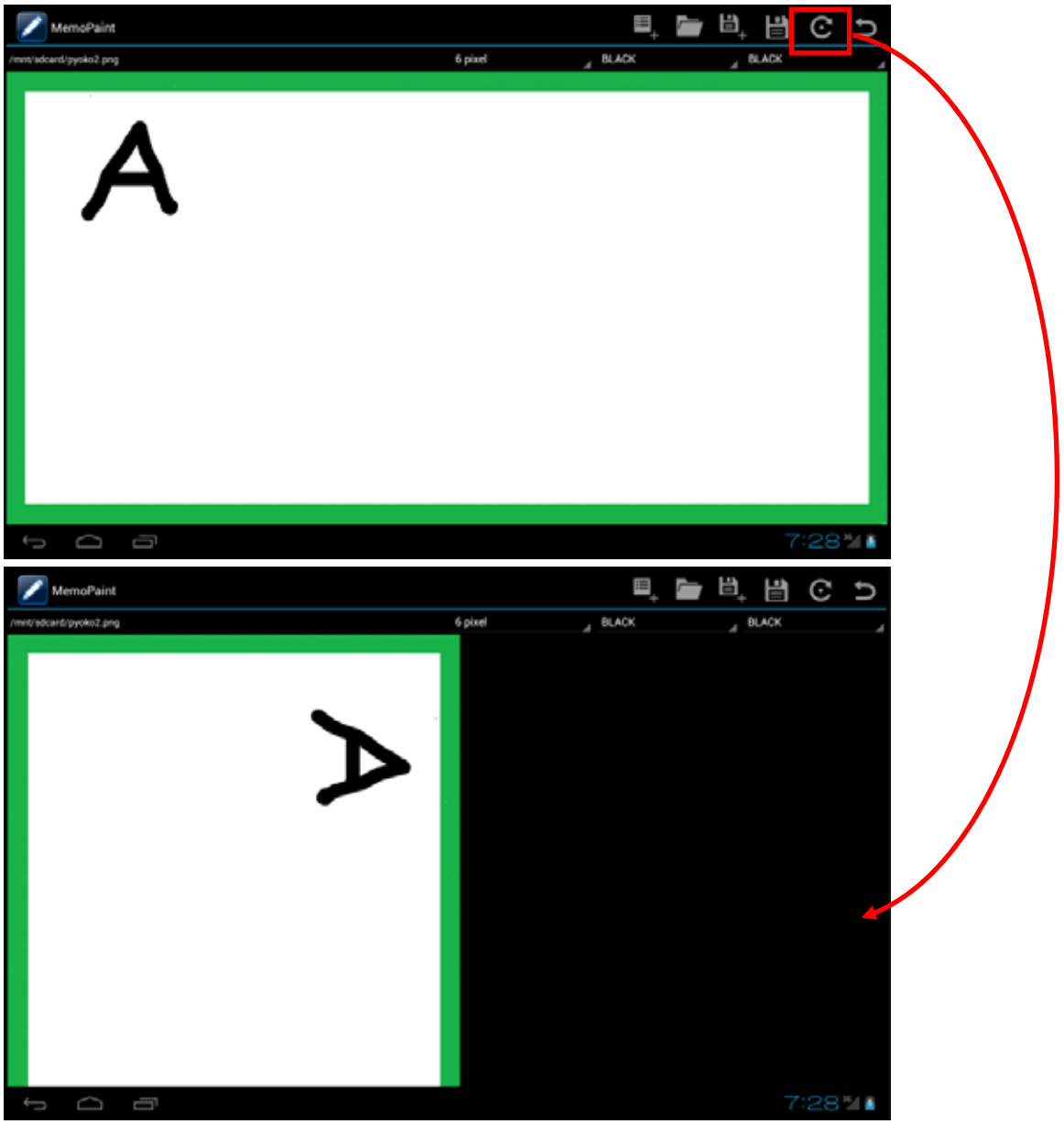


Figure 3.35

It should be noted that the portrait and landscape layouts include the top part (application icons, the action bar, etc.) and bottom part (system bar). Therefore, when the following operation is performed, the full-screen image before the operation does not change to a full-screen image after the operation. (If you change the terminal orientation, instead of performing the following operation, you will see a full-screen image that is similar to the image that was saved.)

1) Load a portrait image to a landscape terminal.
2) Rotate the image 90 degrees.

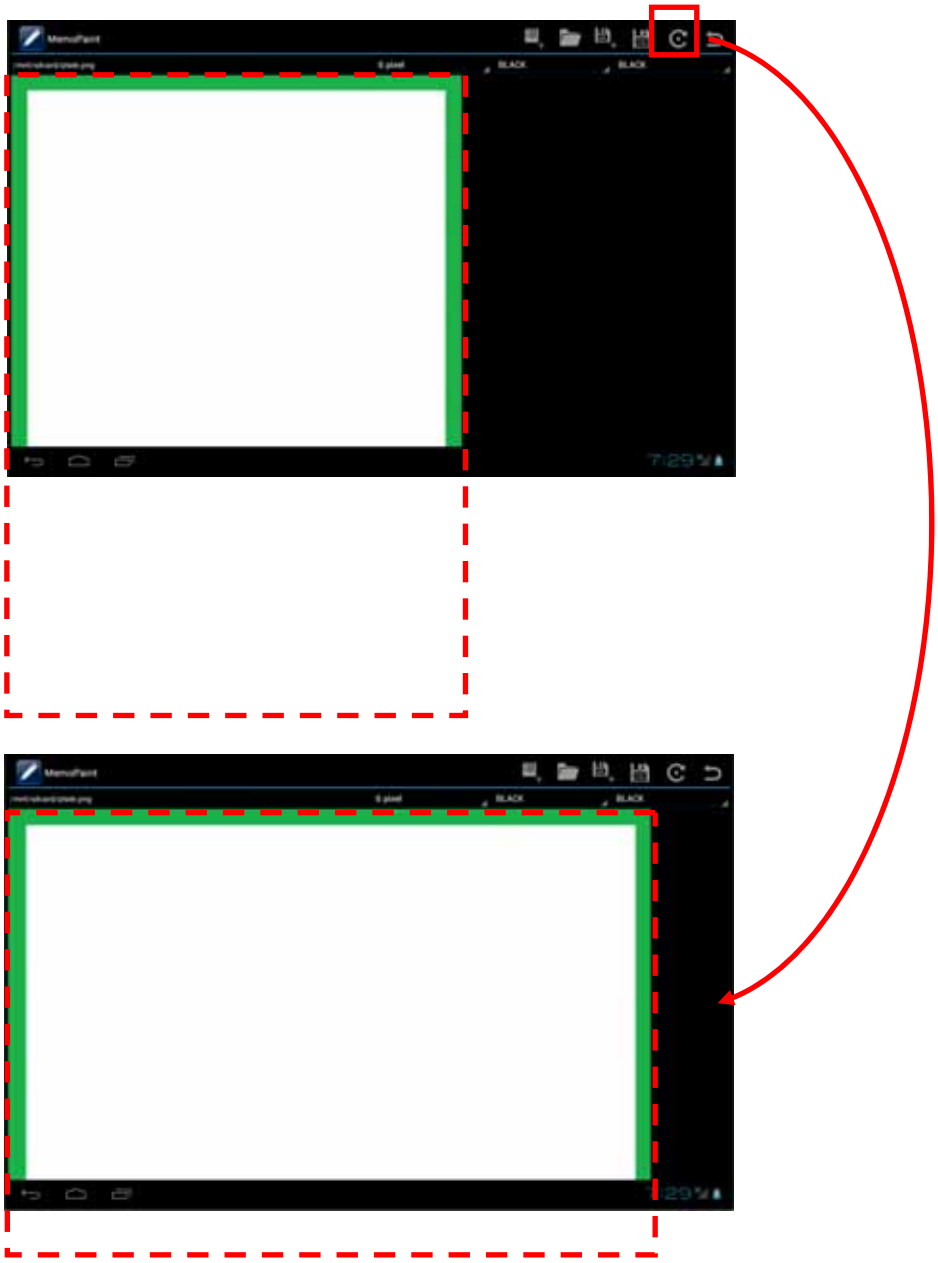


Figure 3.36

Landscape image size: 1280 x 659
Portrait image size: 800 x 1139

Redo

You can undo/redo the just previous operation (that produces a freely drawn line from screen touch to release).

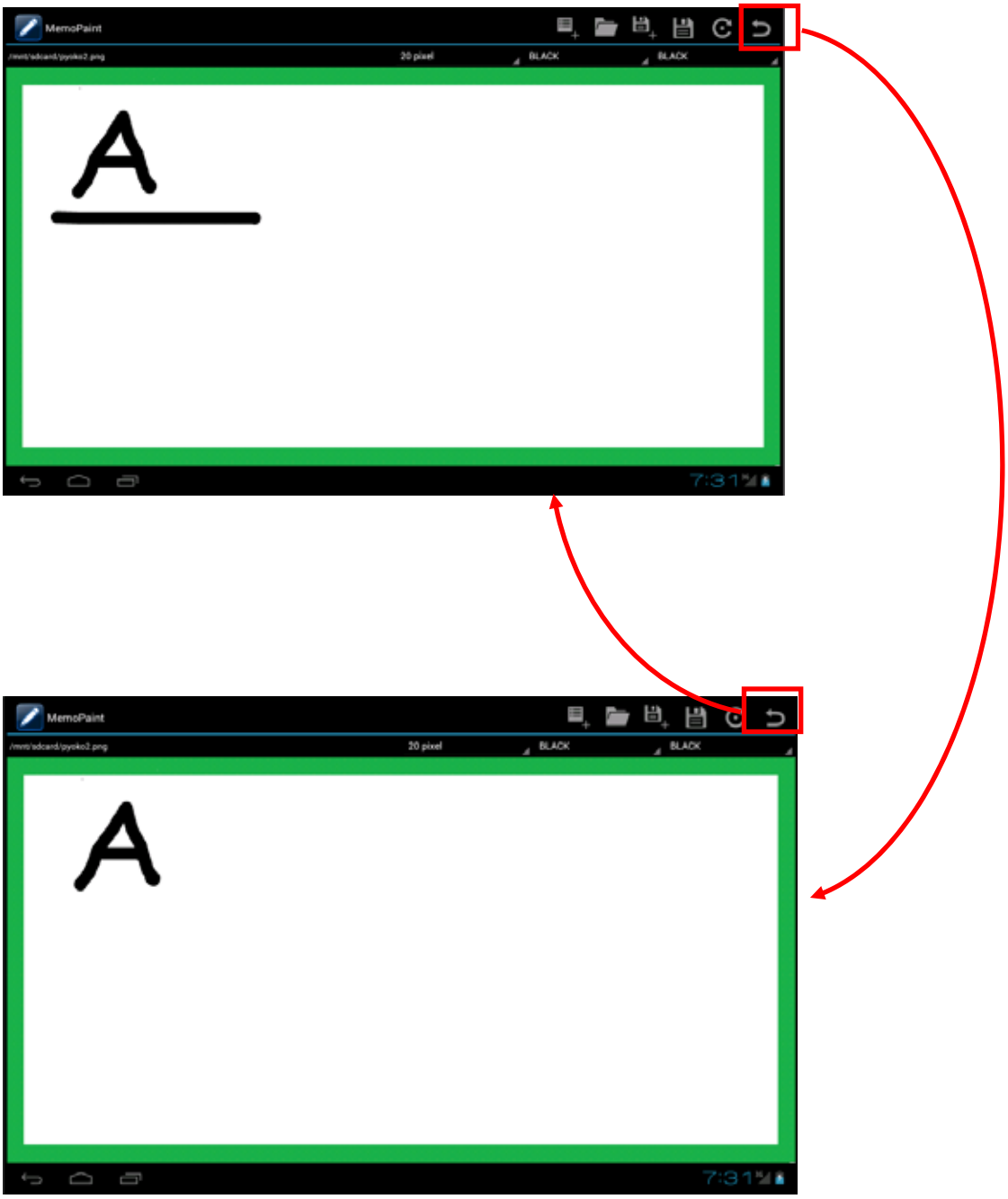


Figure 3.37

Back Key Operation

Upon a back key operation, a confirmation dialog is displayed. If **OK** is selected, the application is terminated.

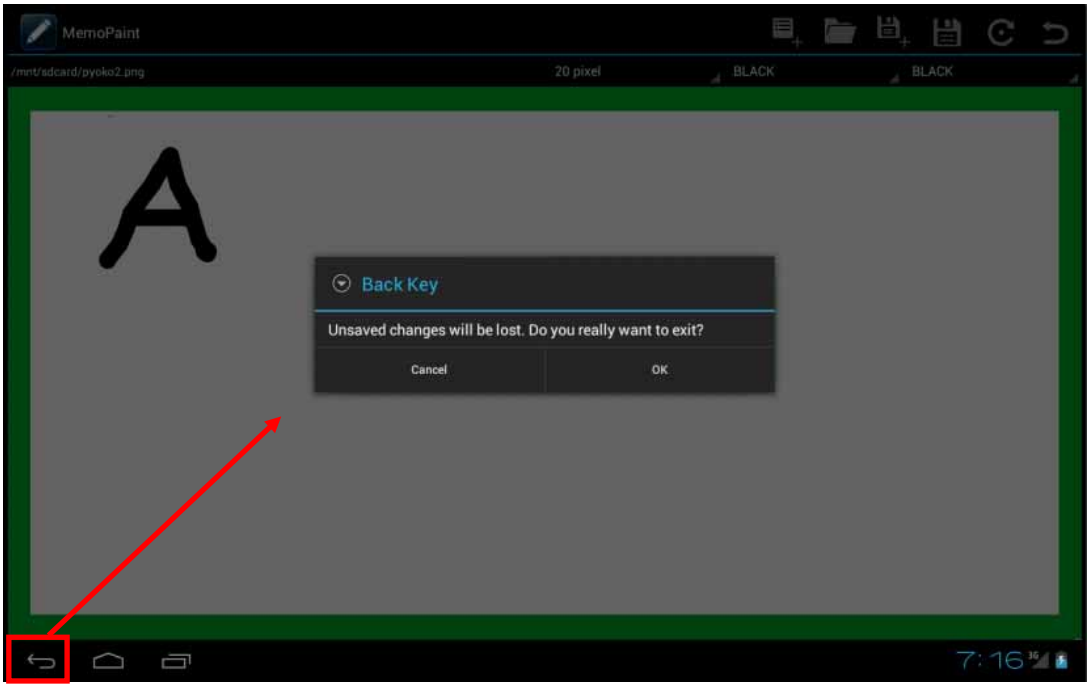


Figure 3.38

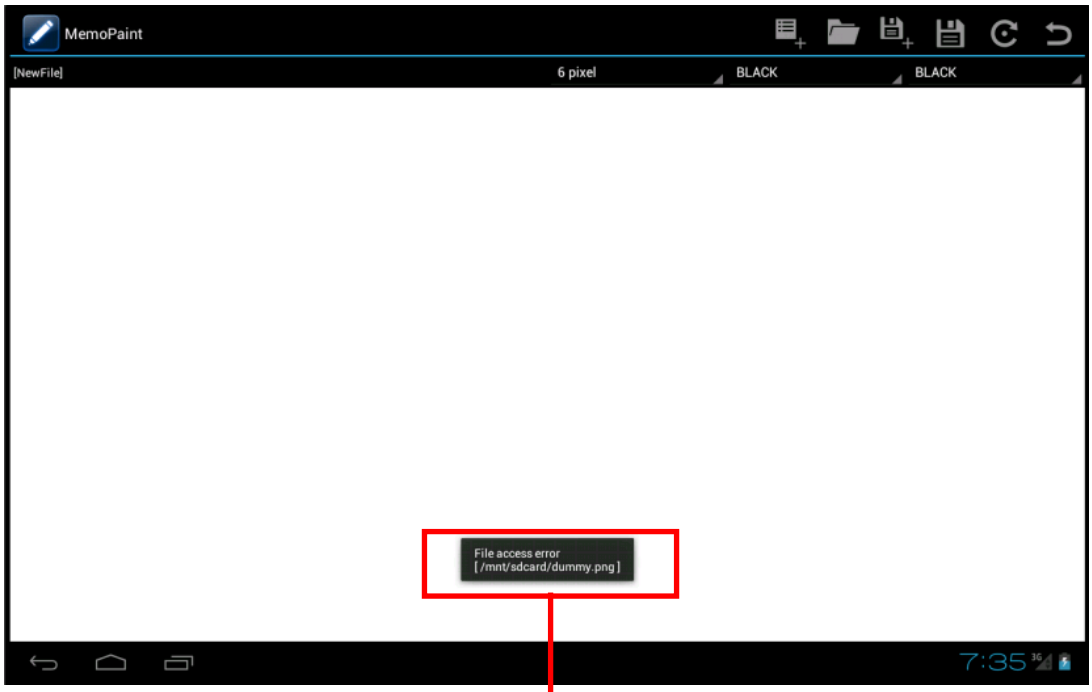
The above confirmation dialog appears even if no edit has been made.

Error Display

If file selection, file creation, or other processing fails for an access permission related or other reason, the following toast display (which will fade out in a certain period of time) appears:

The second line shows the path of the operation target folder.

Figure 3.39 When a folder is selected



The second line shows the path of the operation target file.

Figure 3.40 When a file is accessed

3.5 Job Browser

Job Browser, which is provided as separate from the Android standard browser, allows you to place limitations on the standard browser functions.
Unlike the standard browser, **Job Browser** allows you to put the following limitations:

- Limitations on displayed items
  You can inhibit users from manipulating displayed buttons or the address bar.
- Specification of browsable domains
  You can limit browsable hosts.
- Priority settings

By creating a configuration file, you can let users use their terminals according to the settings in the configuration file, rather than those made on the **Job Browser**.
Except for these limitations, **Job Browser** works in the same way as the Android standard browser.

Example: If the browsable domains are limited to "www.casio.com"
If a URL out of the www.casio.com domain (www.google.com in the sample screen) is entered, a toast warning is displayed and no transition to a site out of the casio.jp domain will occur.

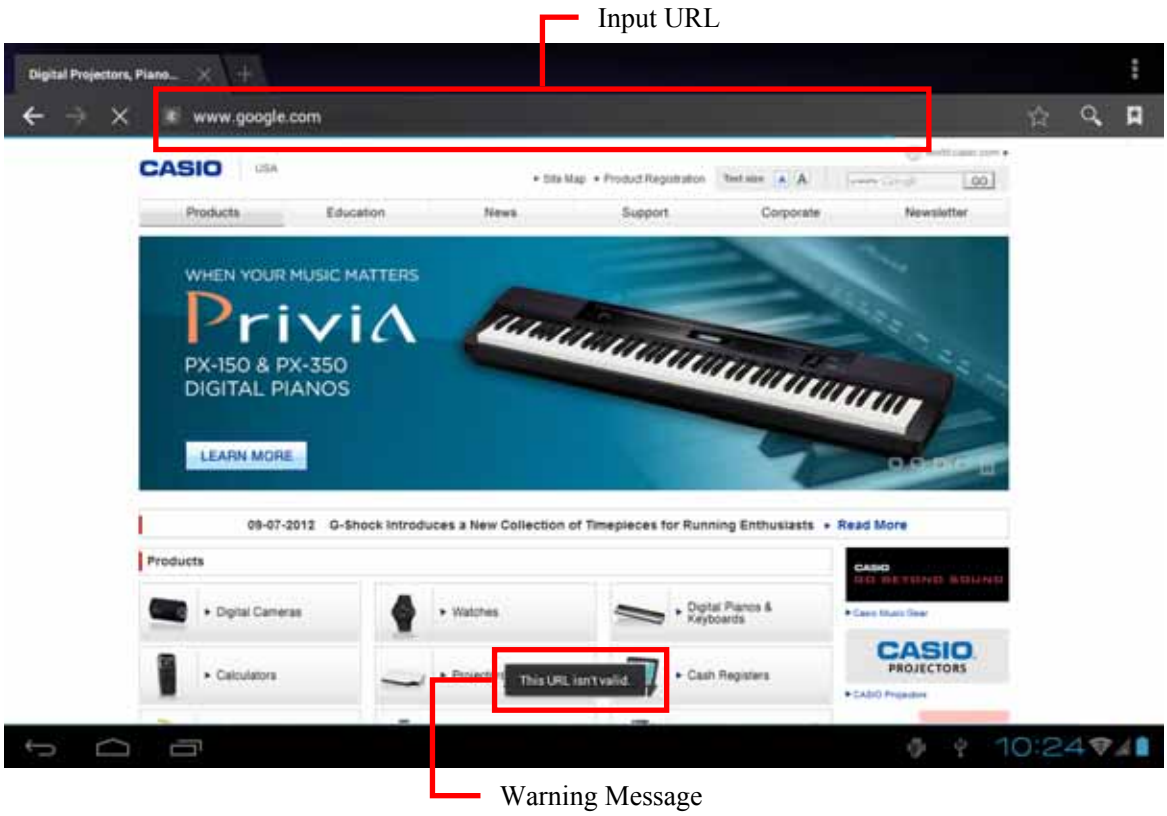


Figure 3.41

- Configuration file
  Job Browser operates based on the XML-formatted configuration file placed in the following path. If no configuration file is provided, **Job Browser** operates based on the settings made on its Settings screen.

Table 3.10

Item	Description
File name	com.android.minibrowser_preferences.xml
Path	/mnt/sdcard/shared_prefs/com.android.minibrowser_preferences.xml
XML declaration	<?xml version='1.0' encoding='utf-8' standalone='yes' ?>
Root element	map

- XML specification (settings)

Table 3.11

Functional (display) item	XML (initial value)	Parameter
General		
Homepage setting	<string name="homepage">http://www.casio.jp</string>	URL (No specification: "about:blank")
Auto form filling	<boolean name="autofill_enabled" value="true" />	true / false
Auto input text	<int name="autofill_active_profile_id" value="0" />	Not registered: 0 Registered: 1
Privacy and security		
Security warnings	<boolean name="show_security_warnings" value="true" />	true / false
Accept Cookies	<boolean name="accept_cookies" value="true" />	true / false
Save form data	<boolean name="save_formdata" value="true" />	true / false
Enable geolocation	<boolean name="enable_geolocation" value="true" />	true / false
Save password	<boolean name="remember_passwords" value="true" />	true / false
Accessibility		
Override zoom setting	<boolean name="force_userscalable" value="false" />	true / false
Text zoom	<int name="text_zoom" value="10" />	A number in the range from 0 to 30
Double tap zoom	<int name="double_tap_zoom" value="5" />	A number in the range from 0 to 10
Minimum font size	<int name="min_font_size" value="0" />	A number in the range from 0 to 20
Inverted rendering	<boolean name="inverted" value="false" />	true / false
Contrast	<int name="inverted_contrast" value="0" />	A number in the range from 0 to 20
Advanced settings		
Search engine setting	<string name="search_engine">google</string>	Google: google Yahoo: yahoo Bing: bing

Open in background	<boolean name="open_in_background" value="false" />	true / false
Enable JavaScript	<boolean name="enable_javascript" value="true" />	true / false
Enable plugins	<string name="plugin_state">ON</string>	Always enable: ON Enable on demand: ON_DEMAND Disable: OFF
Web site setting	Limited	-
Default zoom	<string name="default_zoom">MEDIUM</string>	Low: FAR Medium: MEDIUM High: CLOSE
Open full-screen page	<boolean name="load_page" value="true" />	true / false
Autofit pages	<boolean name="autofit_pages" value="true" />	true / false
Block popups	<boolean name="block_popup_windows" value="true" />	true / false
Text encoding	<string name="default_text_encoding"></string>	Latin-1 (ISO-8859-1): Latin-1 Unicode (UTF-8): UTF-8 Chinese (GBK): GBK Chinese (Big5): Big5 Japanese (ISO-2022-JP): ISO-2022-JP Japanese (SHIFT_JIS): SHIFT_JIS Japanese (EUC-JP): EUC-JP Korean (EUC-KR): EUC-KR (See note1)
Bandwidth management		
Preload search results	<string name="preload_when">WIFI_ONLY</string>	Not performed: NEVER Performed only when WiFi is in use: WIFI_ONLY Always performed: ALWAYS
Load images	<boolean name="load_images" value="true" />	true / false
Labs		
Quick controls	<boolean name="enable_quick_controls" value="false" /> <boolean name="fullscreen" value="false" />	true / false

Note: In **Text encoding** setting, specify null character and don't override setting value, because **Text encoding** is changed by **Language** setting.

- XML specification (display items)

Table 3.12

Functional (display) item	XML (initial value)	Parameter
Display		
Add Tab (button)	<boolean name="add_tab" value="true" />	true / false
Delete Tab (button)	<boolean name="delete_tab" value="true" />	true / false
List Tabs (button)	<boolean name="list_tab" value="true" />	true / false
Back (button)	<boolean name="enable_back_button" value="true" />	true / false
Forward (button)	<boolean name="enable_forward_button" value="true" />	true / false
Refresh (button)	<boolean name="enable_refresh_button" value="true" />	true / false
Address bar	<boolean name="enable_address_bar" value="true" />	true / false
Register Bookmark (button)	<boolean name="enable_bookmark_button" value="true" />	true / false
Search (button)	<boolean name="enable_search_button" value="true" />	true / false
List (button)	<boolean name="enable_bookmarkorhistory_button" value="true" />	true / false
Menu (button)	<boolean name="enable_menu_button" value="true" />	true / false
Domain		
Specified domain	<String name="specified_domain" ></String>	URL* (Null for no specification)

Specify the host name string to be displayed in the URL field. When specifying multiple host names, separate them with a one-byte semicolon (;).
Example: casio.jp;www.google.com;192.168.1.10

•Display limitations

Table 3.13

Functional (display) item	Limitation
Display*	
Add Tab (button)	The displayed icon will not change.
Delete Tab (button)	The displayed icon will not change.
List Tabs (button)	The displayed icon will not change.
Back (button)	The icon color will always be changed to gray.
Forward (button)	The icon color will always be changed to gray.
Refresh (button)	The displayed icon will not change.
Address bar	The display will not change.
Register Bookmark (button)	The displayed icon will not change.
Search (button)	The displayed icon will not change.
List (button)	The displayed icon will not change.
Menu (button)	Not displayed
Domain	
Specified domain	If the domain is not a specified one, no page transition occurs and a toast notification is displayed.

Note: Nothing occurs at the time of operation. However, a toast notification is displayed.

- XML coding sample

```
<?xml version='1.0' encoding='utf-8' standalone='yes' ?>
<map>
<string name="homepage">http://casio.jp</string>
<boolean name="autofill_enabled" value="true" />
<int name="autofill_active_profile_id" value="0" />
<boolean name="show_security_warnings" value="true" />
<boolean name="accept_cookies" value="true" />
<boolean name="save_formdata" value="true" />
<boolean name="enable_geolocation" value="true" />
<boolean name="remember_passwords" value="true" />
<boolean name="force_userscalable" value="false" />
<int name="text_zoom" value="10" />
<int name="double_tap_zoom" value="5" />
<int name="min_font_size" value="0" />
<boolean name="inverted" value="false" />
<int name="inverted_contrast" value="0" />
<string name="search_engine">google</string>
<boolean name="open_in_background" value="false" />
<boolean name="enable_javascript" value="true" />
<string name="plugin_state">ON</string>
<string name="default_zoom">MEDIUM</string>
<boolean name="load_page" value="true" />
<boolean name="autofit_pages" value="true" />
<boolean name="block_popup_windows" value="true" />
<string name="default_text_encoding"></string>
<string name="preload_when">WIFI_ONLY</string>
<boolean name="load_images" value="true" />
<boolean name="fullscreen" value="false" />
<boolean name="enable_quick_controls" value="false" />
<boolean name="enable_add_tab" value="true" />
<boolean name="enable_delete_tab" value="true" />
<boolean name="enable_list_tab" value="true" />
<boolean name="enable_back_button" value="true" />
<boolean name="enable_forward_button" value="true" />
<boolean name="enable_refresh_button" value="true" />
<boolean name="enable_address_bar" value="true" />
<boolean name="enable_bookmark_button" value="true" />
<boolean name="enable_search_button" value="true" />
<boolean name="enable_bookmarkorhistory_button" value="true" />
<boolean name="enable_menu_button" value="true" />
<string name="specified_domain">casio.jp;www.casio.co.jp;129.1.53.59</string>
</map>
```

3.6 Voice Recorder

This software provides functions for voice memo recording and playback.

Figure 3.42

1. Display playlist
2. Record

■ Display playlist

A list of data files recorded so far is displayed.

Each data file is saved with a name in the "Recorder_YYMMDD_HHMMSS.amr" format.

During recoding, the **Stop** button is displayed instead of this button.

Figure 3.43

■ Record

Recording starts when the button is pressed.

To stop recording, press button **1**.

4. Settings

4.1 Software List

Table 4.1

Icon	Software name
	Settings

4.2 Authentication

If administrator authentication is enabled, the screen below appears requesting the administrator password used at startup.
About administrator authentication see Security Settings.

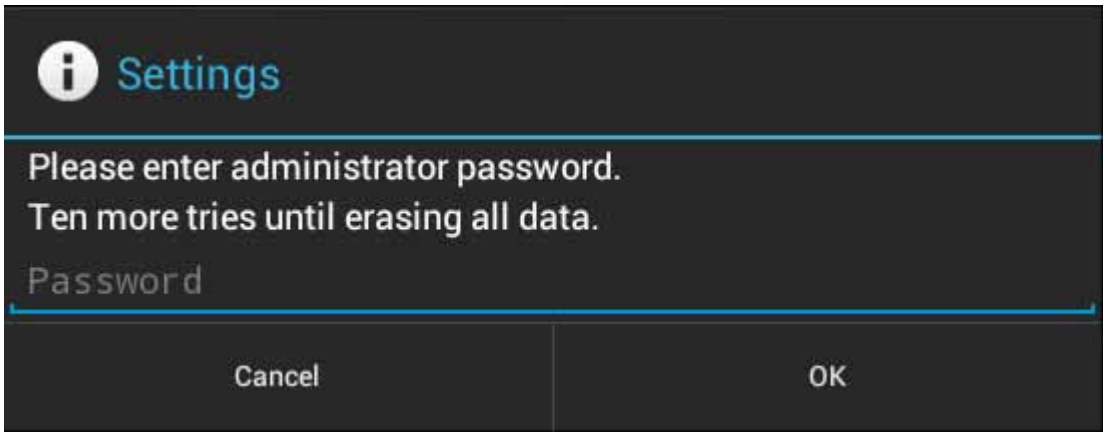


Figure 4.1

Enter the administrator password and then click "OK".
If you are already logged in as a user with system setting privileges, the authentication screen is not displayed even if administrator authentication is enabled.

4.3 WIRELESS & NETWORKS Settings

You can configure and manage settings relating to Wi-Fi, Bluetooth, mobile networks, and USB connections to networks and devices.
You can also configure the connections between your tablet and virtual private networks (VPNs). connect to the Internet using another device via the tablet data communication, or turn off all wireless communications by switching to **Airplane mode**.

Table 4.2

Item		Description
Wi-Fi		Enable/disable Wi-Fi.
Ethernet	IP setting from cradle	Enable/disable IP setting of the cradle.
	Cradle IP	Specify the IP address of the cradle.
	Tablet IP	Specify the IP address of the terminal.
Bluetooth		Enable/disable Bluetooth.
Data Usage		Allow you to check data communication settings and usage.
More…	Airplane mode	Enable/disable Airplane mode
	VPN	Configure VPN settings.
	Tethering and portable hotspot	Configure tethering settings including the access point and communication method.
	NFC	Enable/disable NFC.
	Android beam	Configure settings for data send/receive operations between NFC-enabled terminals.
	Wi-Fi Direct	Enable/disable Wi-Fi Direct.
	Mobile networks (Note)	Configure mobile network settings.

Note: You can use it on a WAN model.

Mobile networks

Table 4.3

Item		Description
Mobile networks		
	Data enabled	Enable/disable data access over Mobile network.
	Data roaming (Note)	Enable/disable to connect to data services when roaming.
	Access Point Names	Edit and select access point. See “Access Point Names setting” for its detail.
	Use only 2G networks (Note)	Enable/disable to use only 2G networks.
	Network operators	Select a network operator.

Note: This setting is enabled on WAN (3G) model.

Access Point Names setting

Following menu is selectable at the top right on **APNs** screen that appears when **Access Point Names** menu is selected.

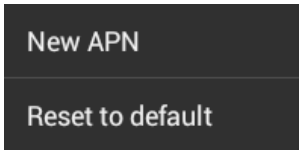


Figure 4.2

Table 4.4

Item	Description
New APN	Register new APN.
Reset to default	Reset APN setting.

When **new APN** menu is selected, following screen will appear.

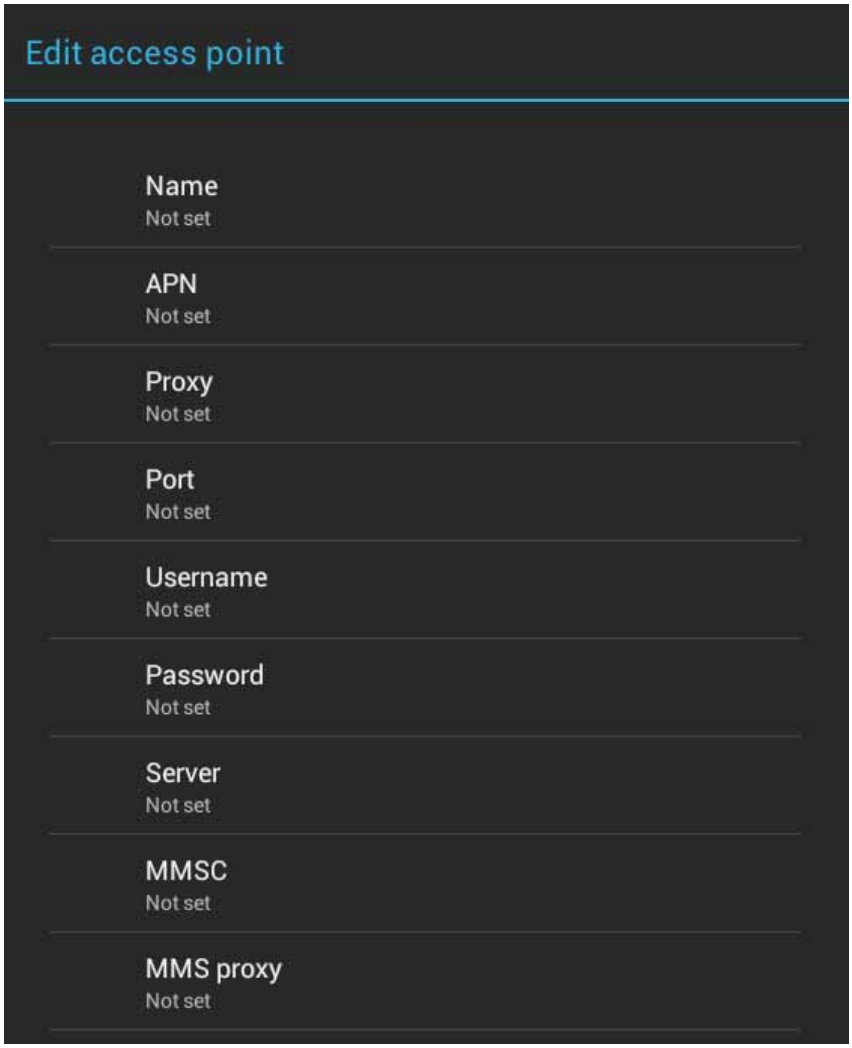


Figure 4.3

Table 4.5

Item	Description
Name	Specify the name of this APN setting.
APN	Specify the name of access point name.
Proxy	Specify the name of proxy host used on data communication.
Port	Specify port number of proxy host used on data communication.
Username	Specify user name for authentication to connect to APN.
Password	Specify password for authentication to connect to APN.
Server	Specify server name designated by network operator.
MMSC	Specify MMSC (Multimedia Messaging Service Center)
MMS proxy	Specify the name of proxy host used to utilize MMS (Multimedia Messaging Service).
MMS port	Specify port number of proxy host used to utilize MMS (Multimedia Messaging Service).
MCC	Specify mobile country code (3 digit number) to identify network operator.
MNC	Specify mobile network code (2-3 digit number) to identify network operator.
Authentication type	Specify one of following authentication types. - None - PAP - CHAP - PAP or CHAP
APN type	Specify APN type designated by network operator.
APN protocol	Specify one of following protocol types. - IPv4

4.4 DEVICE Settings

You can configure sound and display settings and check the storage, battery, and application statuses.

Table 4.6

Item		Description
Sound	Volumes	Sets the speaker, notice, alarm, and other sound volumes.
	Default notification	Sets the default notice sound.
	Vibration and ring	Enables/disables vibration and notification ringtone.
	Touch sounds	Specifies whether to play a sound when you touch an onscreen item.
	Screen lock sound	Specifies whether to play a sound when the screen is locked or unlocked.
	Vibrate on touch	Enables/disables touch vibrating.
Display	Brightness	Sets the screen brightness.
	Wallpaper	Sets a wallpaper.
	Auto-rotate screen	Enables/disables automatic screen rotation.
	Sleep	Sets the time that elapses until the terminal sleeps (Suspend).
	Font size	Sets the font size.
Storage		You can check the used and free storage sizes.
Battery		You can check the charge status and battery available time. Also you can set enable / disable Eco-Charge.
Backup Battery		You can check the charge status and battery available time of backup battery. Also you can set the priority of backup object (clock /memory) when main battery is fully discharged. (See Note1)
Apps		You can check applications installed in your tablet.

Note1: Select **Select backup battery priority** to set the priority of backup object.

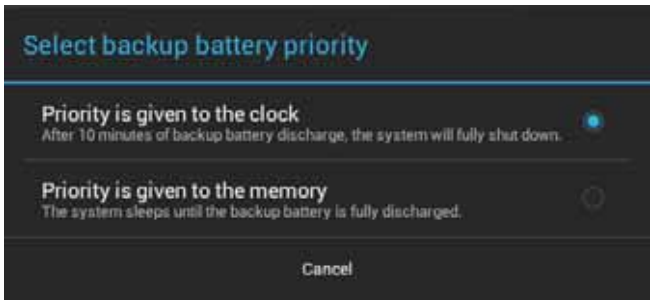

Select backup battery priority
Priority is given to the clock
After 10 minutes of backup battery discharge, the system will fully shut down.
Priority is given to the memory
The system sleeps until the backup battery is fully discharged.
Cancel

Figure 4.4

Table 4.7

No	Setting	Terminal state	Backup	
			Object	Period
1	Priority is given to the clock	Suspend *1	Clock / Memory	10 minutes
		Shut down *2	Clock	Max. 72 hours
2	Priority is given to the memory	Suspend *1	Clock / Memory	It depends on operational environment

*1 In this setting, terminal will be suspended automatically when main battery is fully discharged.

*2 In this setting, terminal will be shut down automatically when 10 minutes have passed after main battery is fully discharged.

4.5 PERSONAL Settings

You can configure settings relating to usage and user preferences, including security settings.

Table 4.8

Item		Description
Accounts & sync	Corporate	Set up an Exchange account.
	Email	Set up an email account.
	Local Account	Sets the "Local Account" to use "Calendar" without synchronizing with server.
	Sync Calender and Contacts	Set up Calender and Contacts to use by synchronizing with Google service..
Location services	Google's location service	It cannot be used.
	GPS satelites	Specifies whether to allow applications to identify your current location using GPS.
Security	Screen lock	Sets the authentication method used when unlocking the screen.
	Owner info	Specifies what to display as the owner information on the locked screen.
	Encrypt tablet	Encrypts the data within the tablet. See Note1.
	Encrypt External Storage	Configure the encryption settings of external storage.
	Set up SIM card lock	Specifies whether PIN input is required when the tablet is used.
	Make passwords visible	Specifies whether to display each password character for a short period of time when a password is entered.
	Device administrators	Displays a list of the applications you are authorized to administrate on the tablet.
	Unknown sources	Specifies whether to allow installation of applications whose source is unknown.
	Trusted credentials	Displays trusted CA certificates.
	Install from SD card	Installs the certificate from the SD card.
	Clear credentials	Clears all certificates.
Language & input	Language	Sets the language to use.
	Spelling correnction	Enables/disables the spell checker and allows you to select a spell check dictionary.
	Personal dictionary	Registers a user dictionary.
	Keyboard & input methods	Sets the keyboard and character input method.
	No hide screen keyboard	Enables/disables to show the screen keyboard even if the physical keyboard is connected
	Text-to-speech output	Allows you to select the speech engine to use and set the text-to-speech speed.
	Pointer speed	Sets the mouse pointer speed.
Backup & reset	Factory data reset	Clears all data within the tablet.

Note1: You should turn OFF the Bluetooth and the Wi-Fi before performing encryption.

4.6 SYSTEM Settings

You can configure date/time settings and developer-oriented options.

Table 4.9

Item		Description
Date & time	Automatic date & time	Specifies whether to use automatic date/time setting.
	Set date	Sets the date.
	Set time	Sets the time.
	Select time zone	Sets a time zone.
	Use 24-hour format	Specifies whether to use the 24-hour format for display.
	Select date format	Sets the date format.
Accessibility	Large text	Specifies whether to use large character sizes.
	Auto-rotate screen	Specifies whether to use automatic screen rotation.
	Speak passwords	Specifies whether to use phonetic password output.
	Touch & hold delay	Specifies the time of a long press.
	Install web scripts	Specifies whether to allow web script installation.
Developer options	USB debugging	Specifies whether to use USB debugging.
	Development device ID	Displays the terminal ID.
	Stay awake	Enables/disables sleep mode.
	Allow mock locations	Specifies whether to allow mock locations.
	Desktop backup password	Specifies a password for full backup.
	Strict mode enabled	Specifies whether to blink the screen to notify the user that the processing time is long.
	Pointer location	Specifies whether to display the tap event information (coordinates).
	Show touches	Specifies whether to display a marker to indicate the tapped position.
	Show screen updates	Specifies whether to blink updated areas on the screen.
	Show CPU usage	Specifies whether to display the current CPU utilization.

Continue

Item		Description
	Force GPU rendering	Specifies whether to use 2D hardware acceleration.
	Window animation scale	Allows you to adjust the window animation speed.
	Transition animation scale	Allows you to adjust the speed of the animation displayed when the component changes.
	Don't keep activities	Specifies whether to terminate the application immediately.
	Background process limit	Specifies the maximum number of background processes allowed.
	Show all ANRs	Specifies whether to notify the user if a background application does not respond.
About tablet	Status	Displays the terminal status (battery, network, etc.).
	Legal information	Displays information on licenses.
	Model number	Displays the model number.
	Android version	Displays the Android version.
	Baseband version	Displays the baseband version.
	Kernel version	Displays the kernel version.
	Build number	Displays the build number.

4.7 Encrypt External Storage

Overview

This function enables to enhance the security by encrypting the external storage (SD card, microSD card, USB storage, OTG USB storage).

1. Feature
   - Encrypt the external storage by encryption key.
   - Allow to use the external storage, encrypted by same encryption key, among terminals.
   - Not allow to read/write encrypted external storage in PC/other manufacture terminals.
   - Possible to backup and restore the contents in external storage by backup/restore tool.
   - Enable to develop the application without considering about the encryption.

2. Usage

   [Step1] Configure the encryption key

   ※ This encryption key will be used in common for all external storage

   [Step2] Configure to enable/disable encryption function for each external storage.

   [Step3] Format the external storage

   - Case to encrypt : Format the external storage by encryption key. External storage will be encrypted media.
   - Case not to encrypt : Format the external storage to FAT file system. External storage will be unencrypted media.

   ※ <u>If the external storage is formatted, all data in the storage will be deleted.</u>

3. Configuration and Activity

Table 4.10

Terminal / Media		Terminal			PC / Other manufacture terminals ..
		Not to encrypt	To encrypt		
			Encryption key A	Encryption key B	
Unencrypted media		Y	N	N	Y
Encrypted media	Encryption key A	N	Y	N	N
	Encryption key B	N	N	Y	N

Y : Possible to mount and read/write

N : Impossible to mount and read/write (displayed as blank storage at notification bar)

Use the exteral storage in encryption mode (in case of SD card)

(1). Overall flow

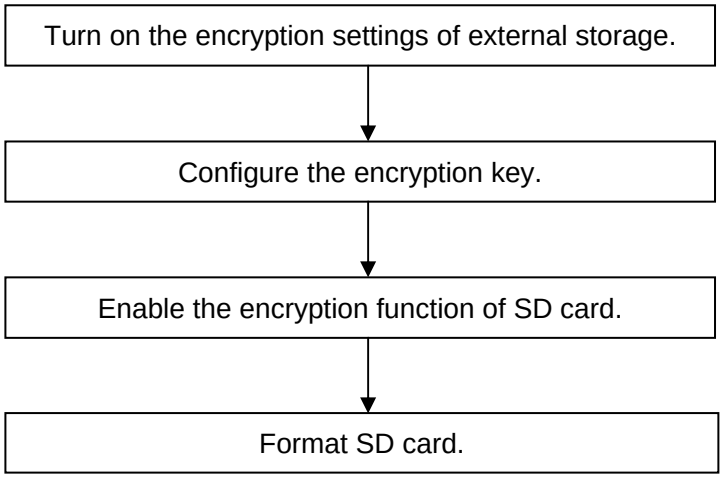

Turn on the encryption settings of external storage.
Configure the encryption key.
Enable the encryption function of SD card.
Format SD card.

Figure 4.5

(2). Turn on the encryption settings of external storage

1. Select **Encrypt External Storage** at **Security** menu in **Settings** tool.

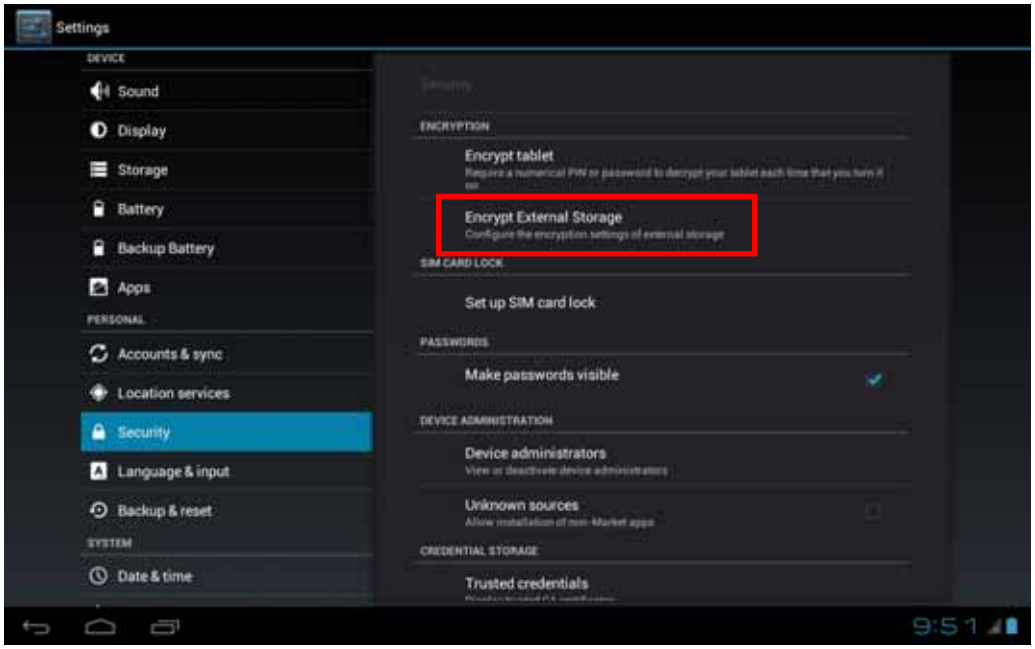


Figure 4.6

2. Switch **ON** displayed at the upper right of the screen

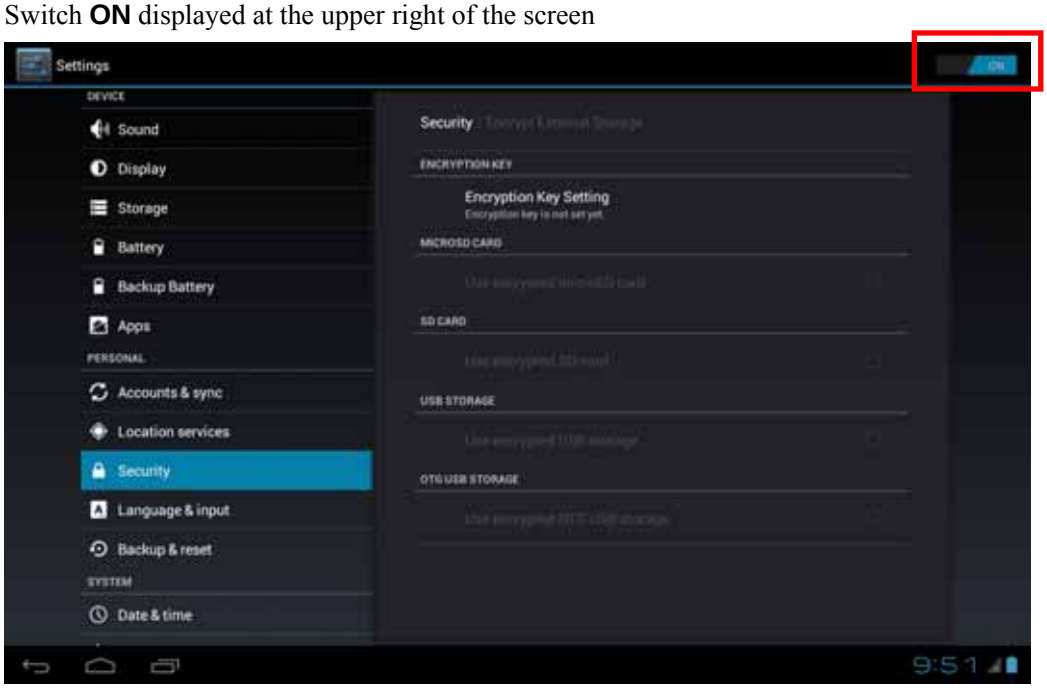


Figure 4.7

(3). Configure the encryption keyword

3. Select **Encryption Key Setting**

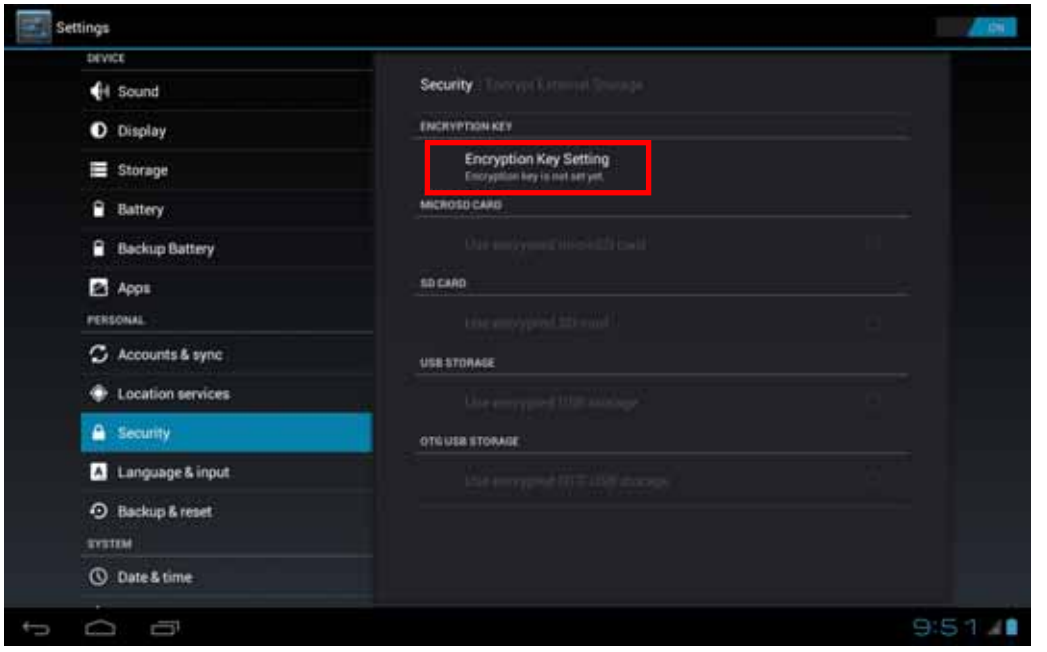


Figure 4.8

4. Input the encryption key within 4 – 32 character fonts
   Input half-width character font.
   Some symbol font may not be allowed to input.
   In case to input non-allowed character font, message “Encryption Key contains all illegal character” will appear.
   When it’s completed to input, tap **Continue** button.

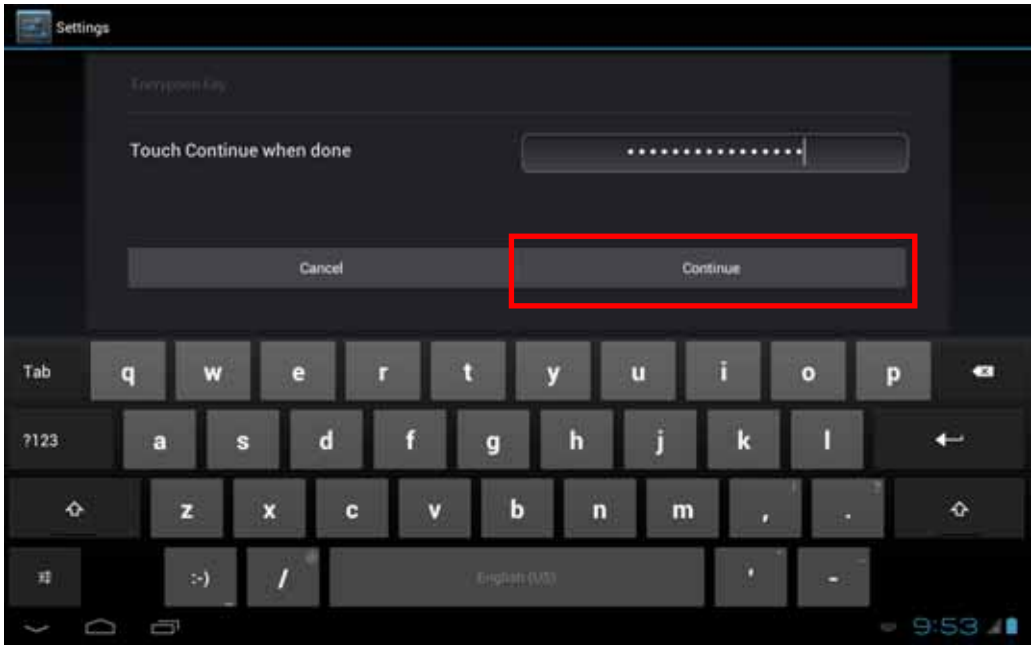


Figure 4.9

5. Input the encryption key again for confirmation
   When it's completed to input, tap **OK** button.

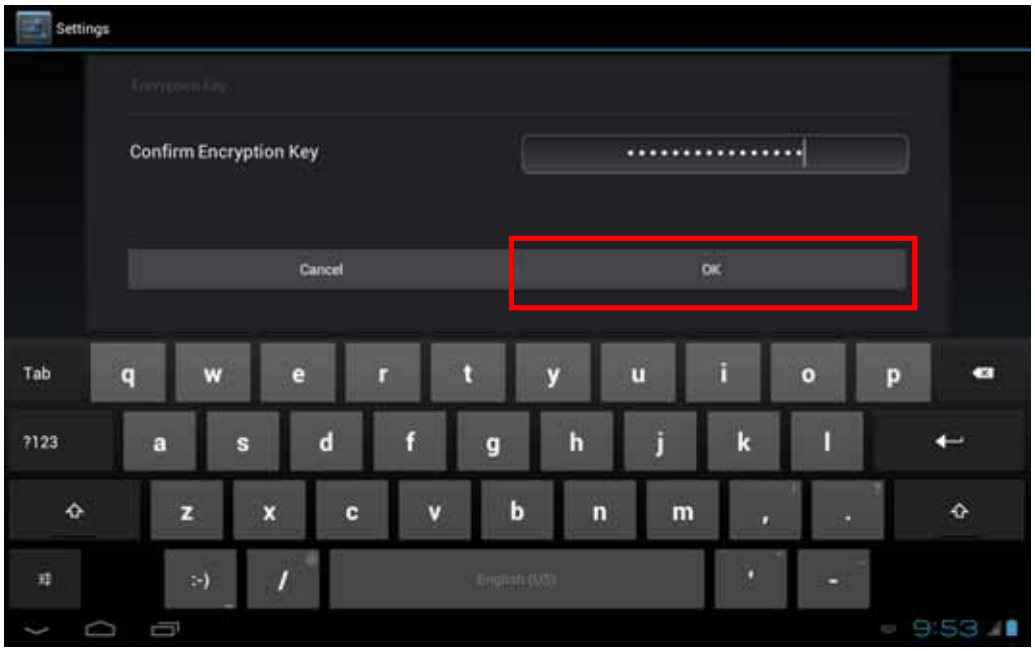


Figure 4.10

6. If encryption key is configured successfully, following dialog-box will appear.
   Tap **OK** button.

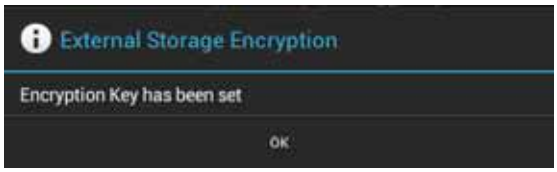


Figure 4.11

(4). Enable the encryption function

7. If SD card is already mounted, un-mount SD card by **Settings** tool at first
8. Select **Encrypt External Storage** in **Settings** tool
9. Check on **Use encrypted SD card**

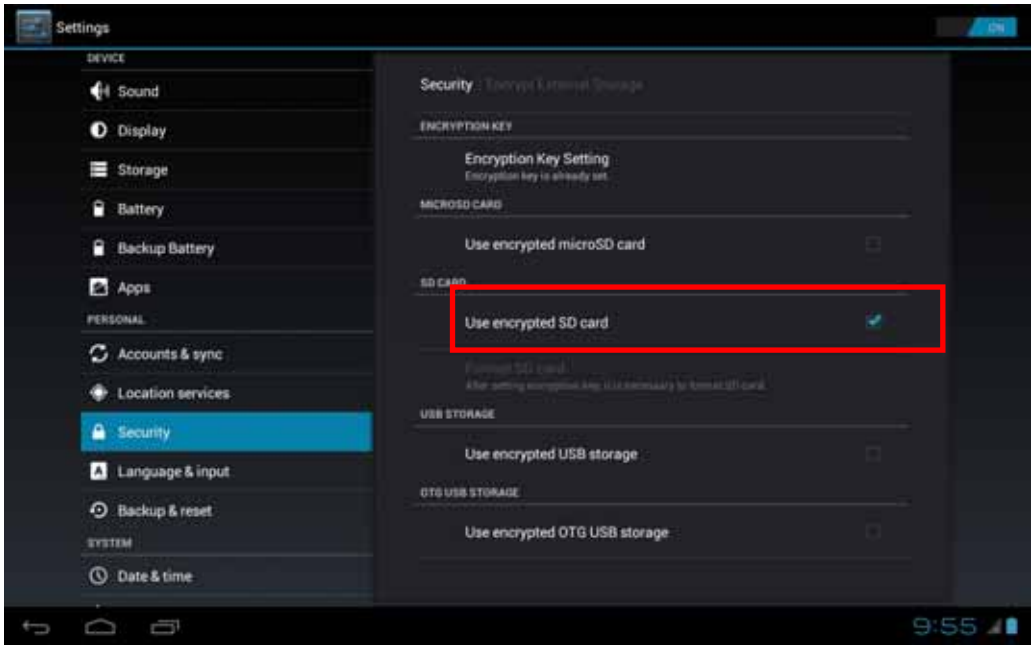


Figure 4.12

(5). Format external storage

10. Insert the SD card into SD card slot of the terminal

※ If SD card is already inserted, skip this step.

11. Select **Format SD card**

※ SD card will be formatted.
If SD card is formatted, all data in SD card will be deleted.
It's recommended to make backup before formatting.

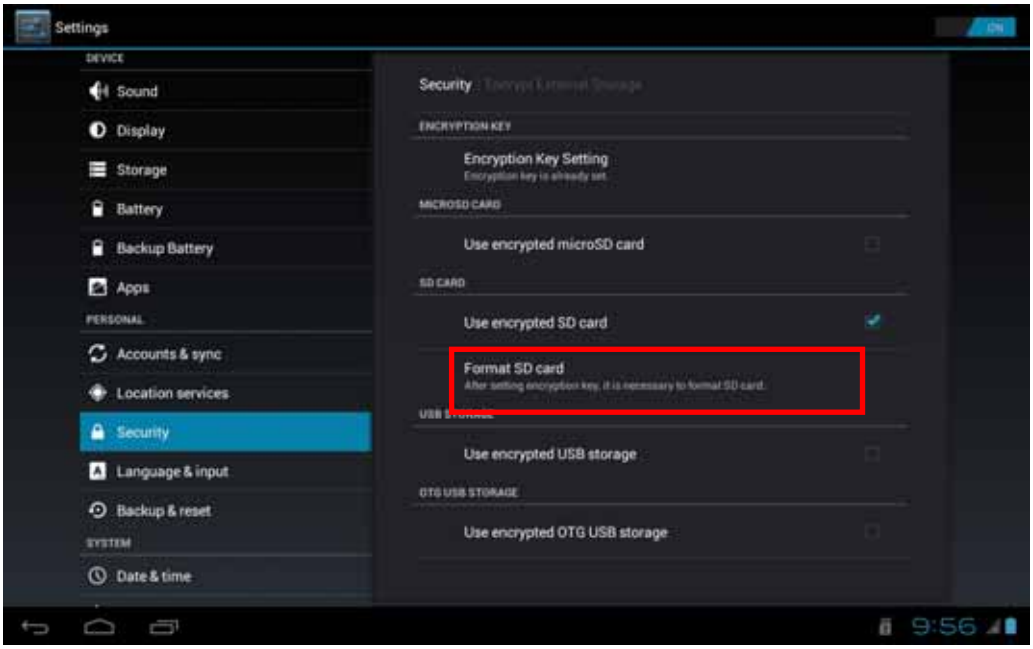


Figure 4.13

12. When formatting is completed, SD card will be encrypted and mounted automatically. Then it's possible to use as encrypted SD card

Encrypted SD card allows following terminals to access like unencrypted SD card, but does not allow PC/other manufacture terminals to read/write.
- Own terminal
- Terminal configured with same encryption key

(6). Caution

※ Above explanation is the sample operation in case of SD card.
In case of other external storage, replace the explanation part of SD card with other external storage.

※ The configuration of above 9 for the current mounting SD card will be executed when next SD card will be mounted or formatted.
This means that the configuration for the current mounting SD card is not executed soon.

Use the exteral storage in unencryption mode (in case of SD card)

(1). Overall flow

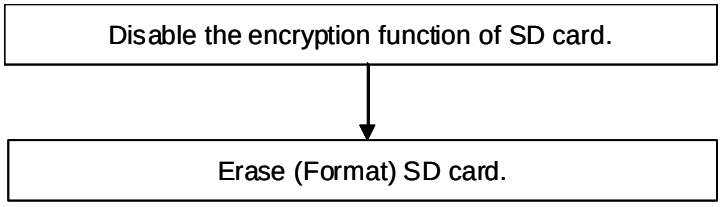


Figure 4.14

(2). Disable the encryption function of SD card

1. If SD card is already inserted and mounted, un-mount SD card at **Storage** in **Settings** tool at first

2. Select **Encrypt External Storage** at **Storage** in **Settings** tool

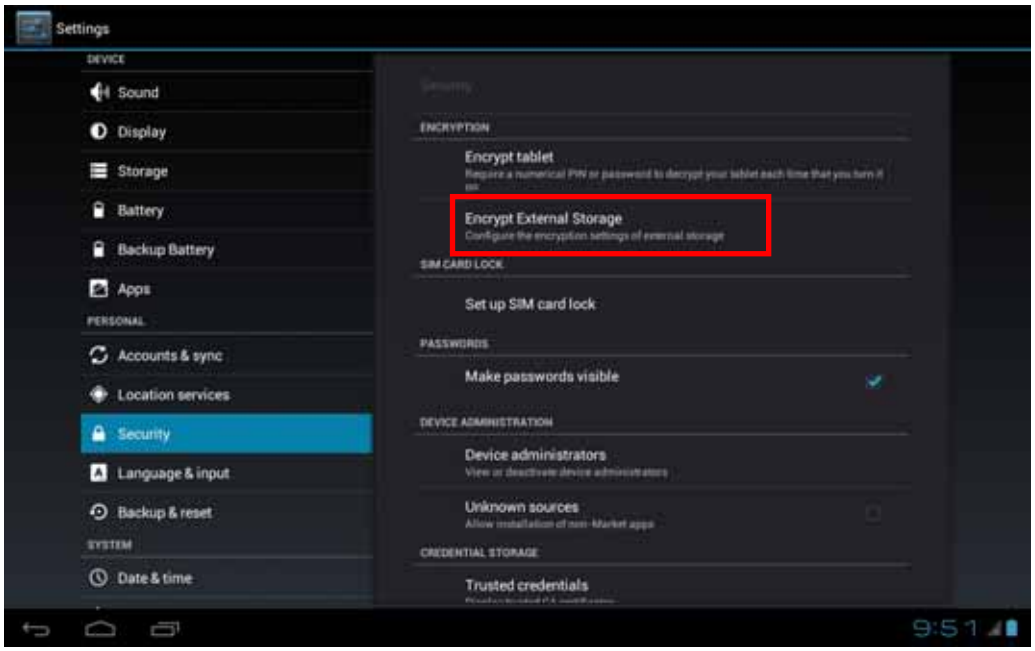


Figure 4.15

3. If **Use encrypted SD card** is checked on, check off

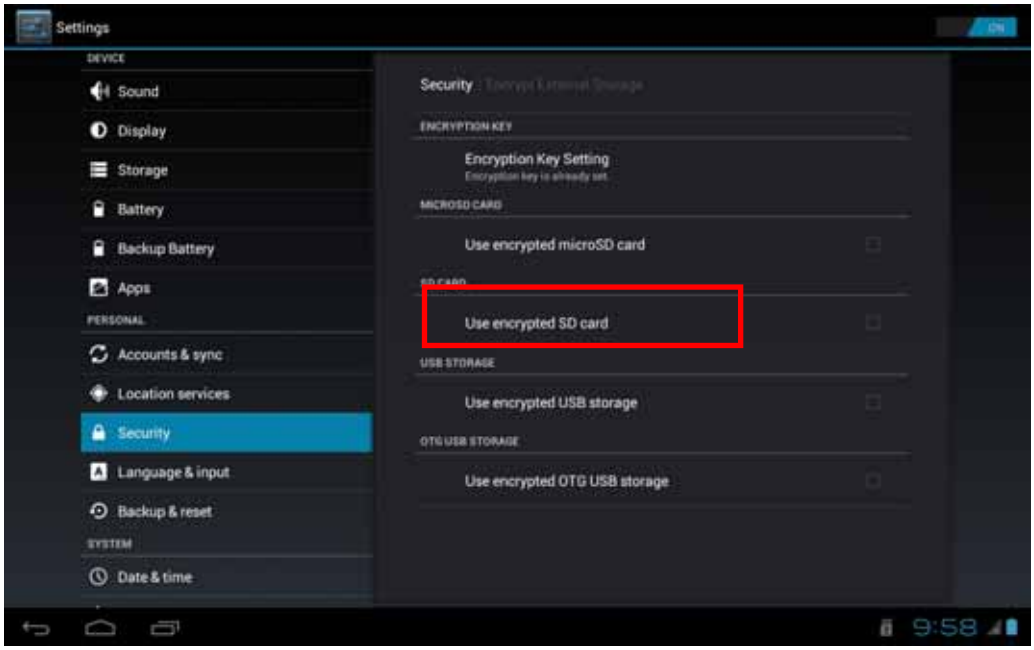


Figure 4.16

(3). Erase (Format) SD card

4. Insert encrypted SD card into SD card slot of the terminal (then displayed as blank SD card at notification bar)

※ If encrypted SD card is already inserted, skip this step.

5. Select **Erase SD card**, format encrypted SD card

※ If SD card is formatted, all data in SD card will be deleted.
It's recommended to make backup before formatting.

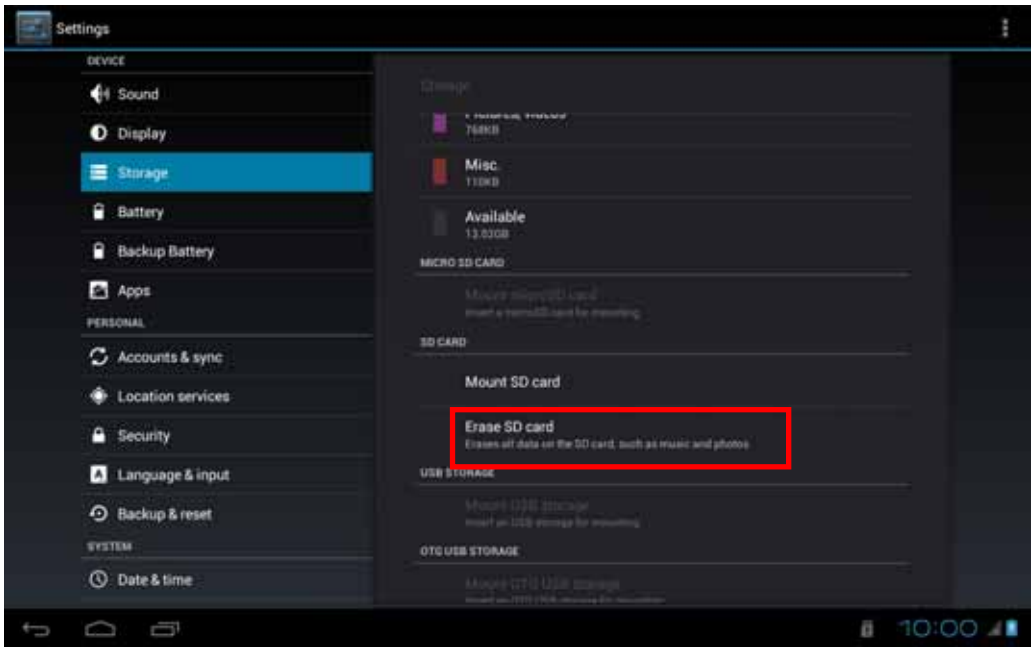


Figure 4.17

6. When formatting is completed, SD card will be unencrypted and mounted automatically. Then it's possible to use as unencrypted SD card

(6). Caution

※ Above explanation is the sample operation in case of SD card.
In case of other external storage, replace the explanation part of SD card with other external storage.

※ The configuration of above 3 for the current mounting SD card will be executed when next SD card will be mounted or formatted.
This means that the configuration for the current mounting SD card is not executed soon.

※ If **Erase SD card** (mentioned in above 5) is executed in encrypted mode when **Use encrypted SD card (**mentioned in above 3) is checked on, encrypted SD card will be formatted.

5. Operation Support Tools

5.1 Software List

Table 5.1

Icon	Software name	Package name
	Job Menu	jp.casio.vx.util.activemenu
	Login Settings	jp.casio.vx.util.activelocalsecurity
	Job User Editor	jp.casio.vx.util.useraccounteditor
	Security Settings	jp.casio.vx.util.activemenu.activeadministratorsetting
	AntiBurglar	jp.casio.vx.util.antiburglar

5.2 Job Menu

The **Job Menu** identifies the user through RFID or using the password and provides a menu system that can represent a tree structure consisting of up to five levels.
This system works as the Home Application. You can display it anytime by pressing the **Home** key.

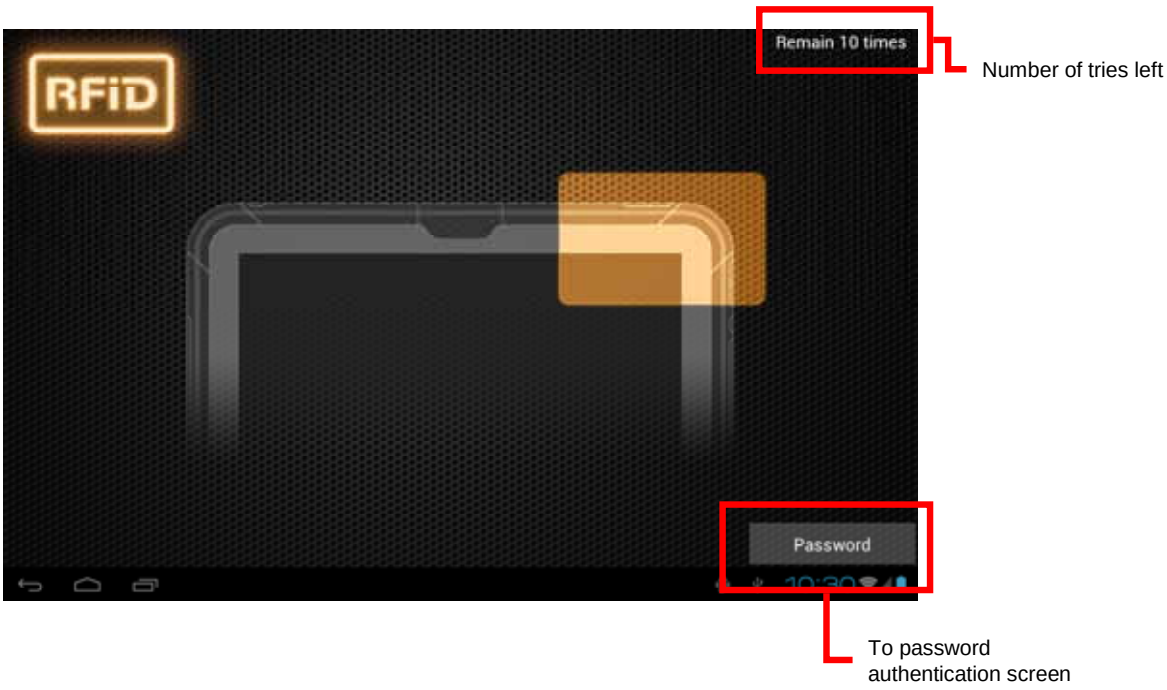


Figure 5.1 User authentication screen (for RFID authentication)

Figure 5.2 User authentication screen (for password authentication)

Notes:

1. If terminal state is factory default, authentic method is set as **none**.
   In case to authenticate, select authentic method in **Login Settings**.
2. If terminal state is factory default, following account is registered.
   - User name: CASIO
   - Password: casio

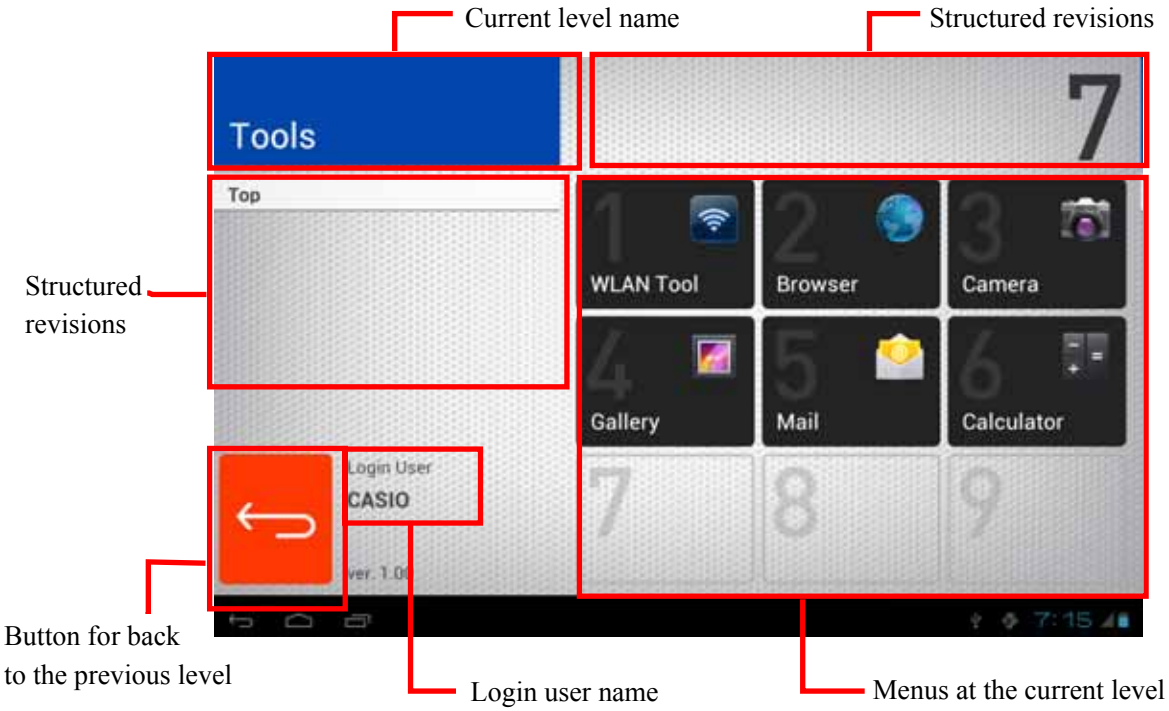


Figure 5.3 Menu screen

[Cooperation with operation mode switch]
When startup, the system checks the status of the operation mode switch.
If the operation mode is in customer mode, avoid user authentication, and doing automatic login as user named "guest", and display the menu screen according to the menu definition for "guest".

Menu definition file for "guest" is JobMenu.guest.xml.
If above file does not exist, "JobMenu.xml" is refered.

[How to customize menu content]
The content of the **Job Menu** is defined in the menu definition file.
The menu definition file is referenced according to the following priority:

Table 5.2

Priority	File path
1	/mnt/sdcard/MenuXml/JobMenu.[login user name].[culture information].xml Note: The culture information refers to the system language and region settings. [Examples] Japan: ja-JP US: en-US
2	/mnt/sdcard/MenuXml/JobMenu.[login user name].xml
3	/mnt/sdcard/MenuXml/JobMenu.[culture information].xml
4	/mnt/sdcard/MenuXml/JobMenu.xml

Therefore, if you want to display a special menu for customer mode, you will place the following files.
/mnt/sdcard/MenuXml/JobMenu.guest.xml

If you want to change the content of the menu with culture information, set the following files.
Japan：/mnt/sdcard/MenuXml/JobMenu.guest.ja-JP.xml
US：/mnt/sdcard/MenuXml/JobMenu.guest.en_US.xml

If these files do not exist, the system menu stored in ROM is displayed.

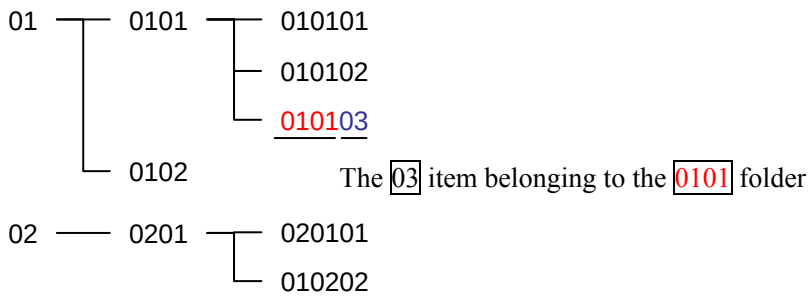
You can customize the menu by adding/placing either of the above files at the indicated location, according to the status of use.
Note: After files are placed, restart the terminal.

The format of the above files is as follows:
- File format: XML
- Character set: UTF-8

Table 5.3 Menu property block (<Ver> tag)

No.	Key	Description
1	Number	The number of the format version for this definition file (fixed to "2.00").
2	TopMenuName	The name of the top menu. The name must consist of up to 16 one-byte characters (or 8 two-byte characters) that can be used in file names.

Table 5.4 Menu item block (enclosed by <Menu> tags)

No.	Key	Description
1	Address	The address that represents the location of this item. The address string is in the following format: [address-of-the-folder-containing-the-address][serial-number-within-the-same-level]. The figure below shows an example of items that are hierarchically structured and represented by address strings.  Notes: One level can contain up to 9 items and one folder can contain up to five levels. Any level specified beyond this limit will not be displayed on the screen even if defined. Notes: An error will occur if the same address is used more than once.
2	BtnTitle	The character string to be displayed on the menu button. The string must consist up to 32 one-byte characters (or 16 two-byte characters) that can be used in file names.

		If the string contains a semicolon (;), a line feed is inserted at this position. In other words, a semicolon (;) character cannot be displayed in a title string because it is treated as a control character.
3	Reading	Not used at present.
4	PackageName	The package name of the application to be started.
5	Command	exec: Executes the application identified by packageName. menu: Displays the next level. blank: Hides the item. disable: Disables the item.
6	Intent	Specify this key if you want to start something other than the default activity of the application identified by PackageName. Generally, you do not need to specify it.
7	Authority	Authority information. Not used at present.
8	MimeType	Specify the MIME type if necessary.
9	Arguments	Data associated with ArgumentsKey.
10	ArgumentsKey	Key name specified together with arguments.

- Coding sample -

```
<?xml version="1.0" standalone="yes"?>
<MenuDataSet>
  <Ver Number="2.00" TopMenuName="Top Menu"/>
  <Menu>
    <Address>01</Address>
    <BtnTitle>Folder 1</BtnTitle>
    <Reading />
    <PackageName />
    <Command>menu</Command>
    <Intent />
    <Authority />
    <MimeType />
    <Arguments />
    <ArgumentsKey />
  </Menu>
  <Menu>
    <Address>0101</Address>
    <BtnTitle>Settings</BtnTitle>
    <Reading />
    <PackageName>com.android.settings</PackageName>
    <Command>exec</Command>
    <Intent />
    <Authority />
    <MimeType />
    <Arguments />
    <ArgumentsKey />
  </Menu>
  <Menu>
    <Address>02</Address>
    <BtnTitle>Browser</BtnTitle>
    <Reading />
    <PackageName>com.android.browser</PackageName>
    <Command>exec</Command>
    <Intent />
    <Authority />
    <MimeType>text/html</MimeType>
    <Arguments>http://casio.co.jp</Arguments >
    <ArgumentsKey />
  </Menu>
</MenuDataSet>
```

Note: It is possible to add 1000 Menu item blocks in above XML file.

5.3 Login Settings

This tool allows you to configure the user authentication screen operation. An only user who assigned system setting permissions can edit this settings.

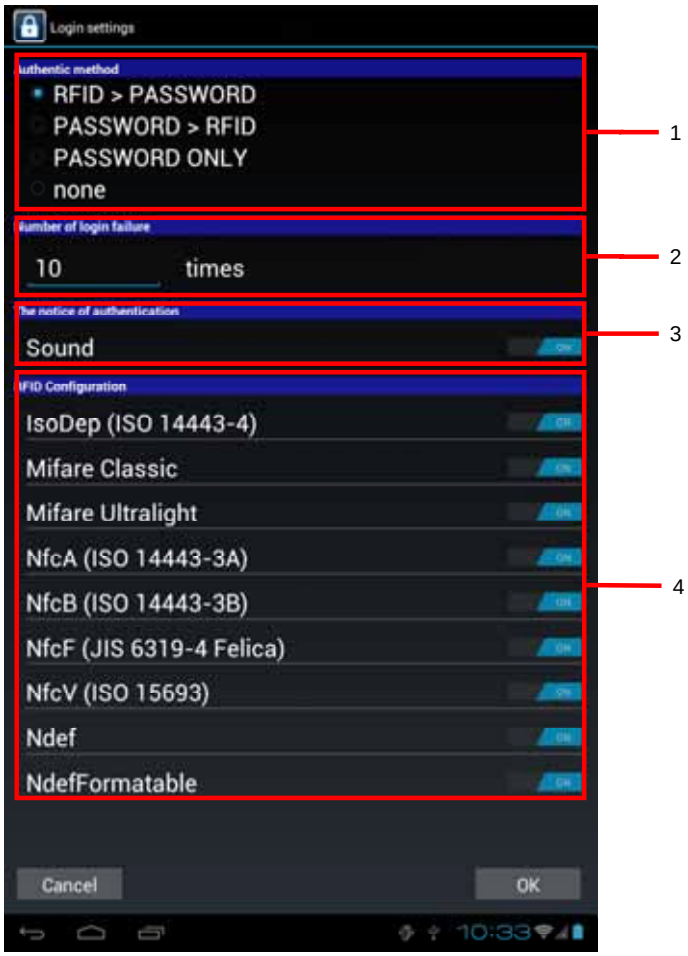


Figure 5.4

Table 5.5

No.	Item	Description
1	Authentic method	RFID > PASSWORD: The RFID authentication screen will be displayed first. PASSWORD > RFID: The password authentication screen will be displayed first. PASSWORD ONLY: Only the password authentication screen will be displayed. none : Login authentication is not enabled.
2	Permitted number of incorrect authentications	Sets the permitted number of consecutive failures. A number between 0 and 99 can be set. If 0 is set, there is no limit on the number of incorrect tries and the number of tries left is not shown at the top of the screen. Once the permitted number of consecutive incorrect authentications is reached, the tablet reverts to the factory default status.
3	The notification of authentication	A sound is emitted when authentication is successful or fails.
4	RFID Configuration	Specify the RFID device type to be read.

Note: After files are placed, restart the terminal.

Followings two ways for authentication is provided.

Table 5.6

Authentication method	Description
RFID	Authentication by RFID media that has been recorded unique code per user. The UID of each RFID card is refered.
Password	Authentication by unique password per user. Usable characters in password are the characters that can be entered by the software keyboard.

5.4 Job User Editor

This tool allows you to edit user accounts.
Up to 10,000 user accounts can be managed. You can add, edit, and delete accounts and can assign system settings permissions to them.

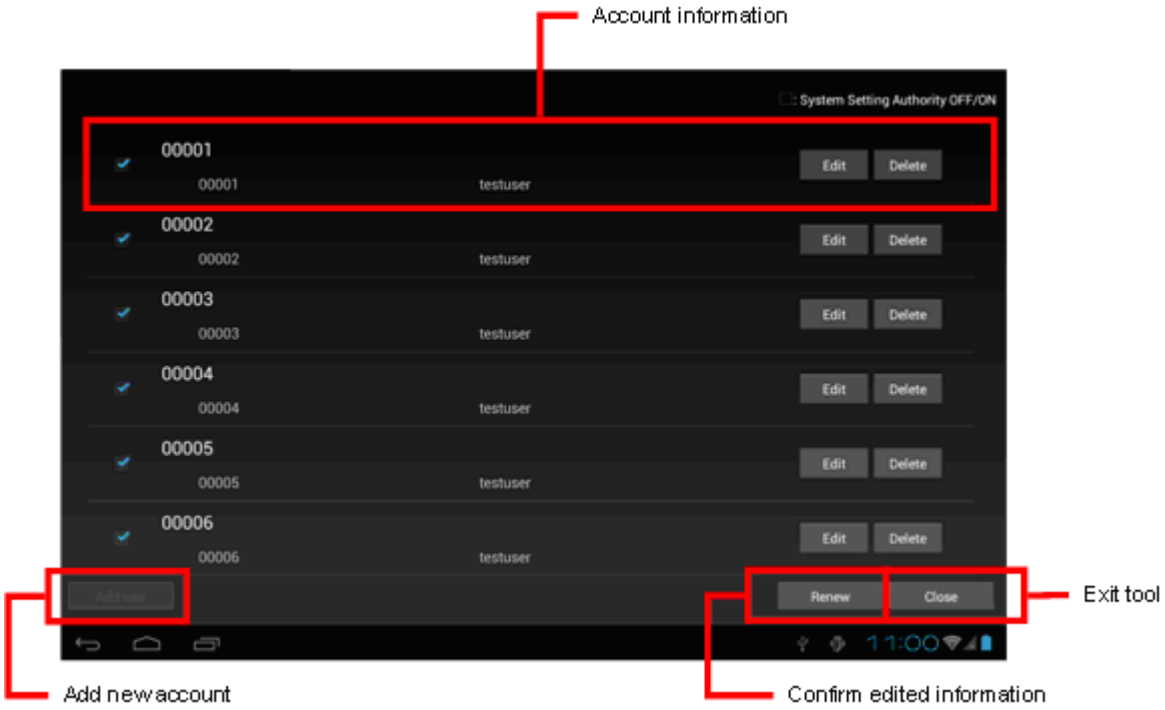


Figure 5.5

[How to assign or delete system settings permissions to or from a user account]
Turn ON or OFF the check box to the right of the pertinent user account.
Note however that at least one account granted system permission must exist within the system. In other words, you cannot uncheck the check box of an account if it would cause the system to have no account that is granted system permission.

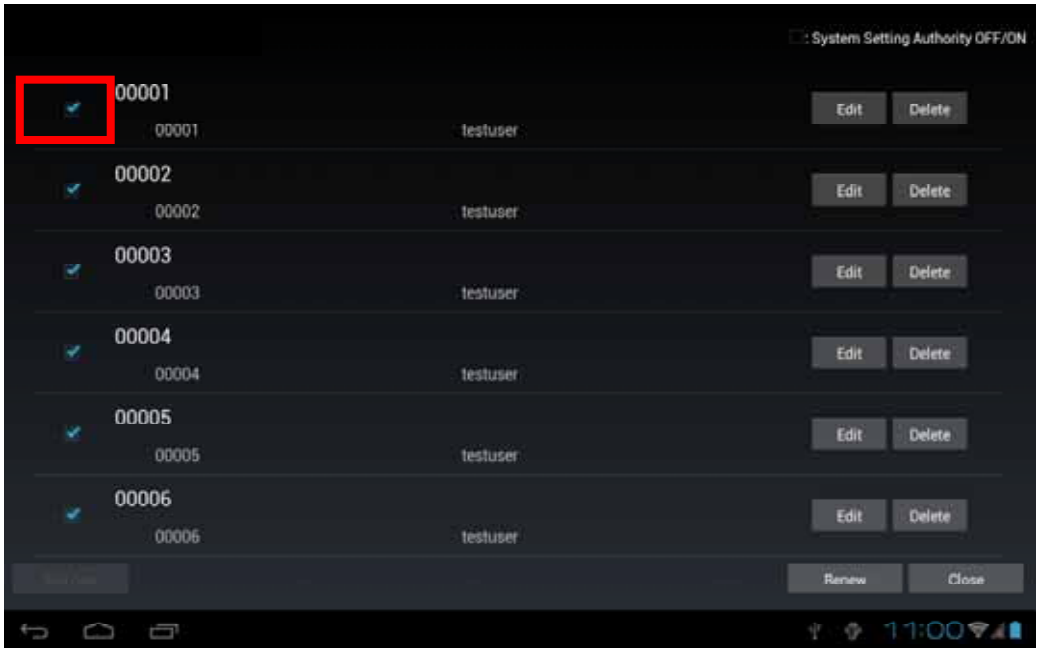
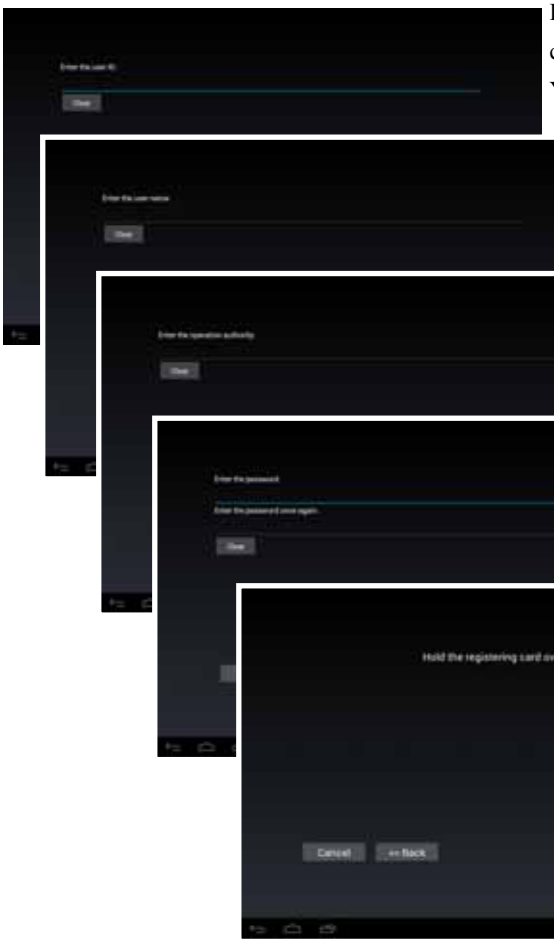


Figure 5.6

[How to add or edit a user account]
Press **Add new** to add a user account or press **Edit** to edit a user account.



Enter the user ID, which must consist of up to alphanumeric characters.
You cannot register any user ID that has already been registered.

Enter the user name, which must consist of up to non-symbol characters.

Enter the job information.
Leave this blank if no job information is used.

Enter the authentication password, which must consist of up to 99 one-byte alphanumeric characters. You cannot register any password that has already been registered.

Register the card for RFID authentication. You cannot register any card that has already been registered.

Figure 5.7

Note: The RFID registration screen will not appear if **PASSWORD ONLY** is selected as the login authentication method (see 5.3 Login Settings).

[How to delete a user account]
Press the **Delete** button to the right of the user account to be deleted.

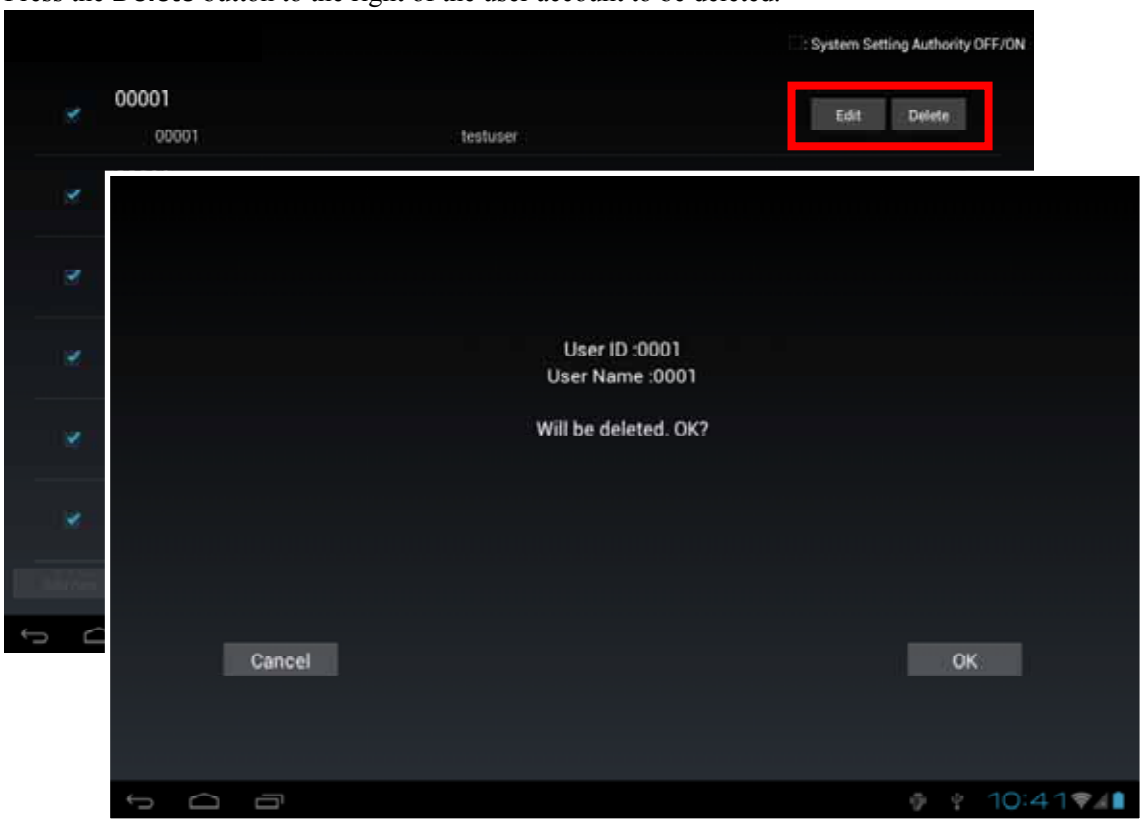


Figure 5.8

Note: Note however that at least one user granted system settings permission must exist within the system. In other words, you cannot delete a user account if it would cause the system to have no account that is granted system permission.

[How to accept your edits]
To accept your edits, press the **Renew** button.

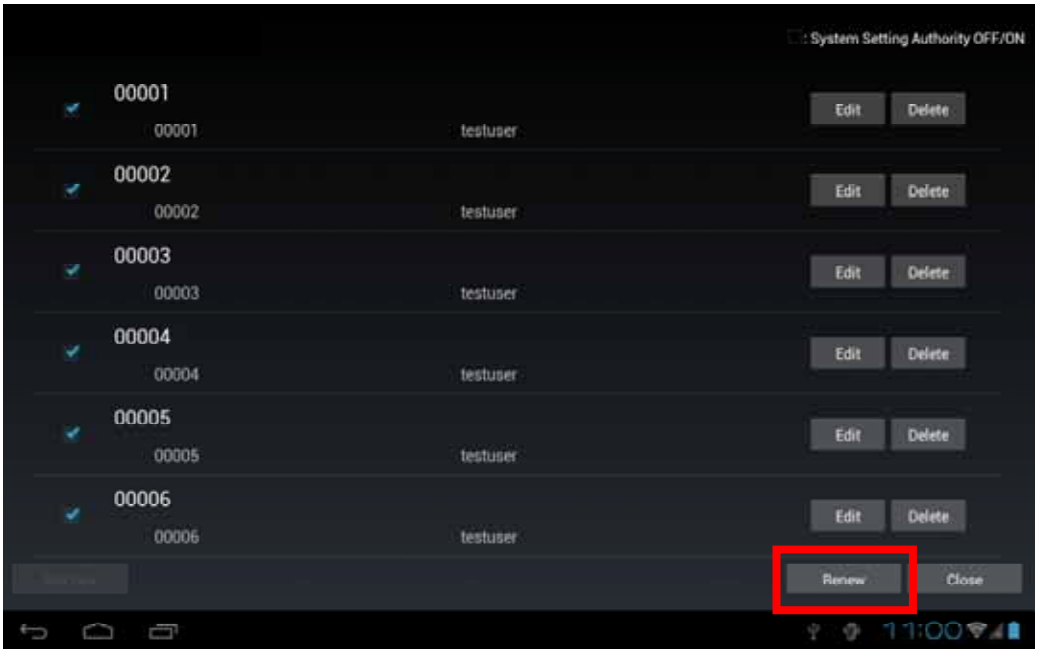


Figure 5.9

[How to terminate the Edit tool]
To terminate the tool, press the **Close** button. A warning dialog will appear if your account edits have not been saved.

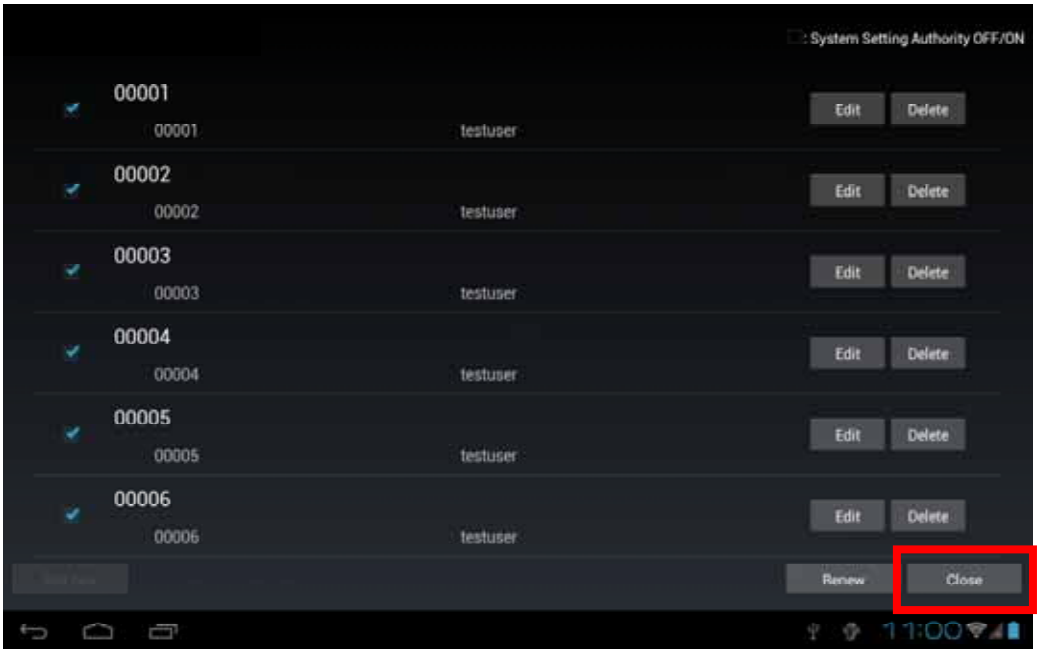


Figure 5.10

5.5 Security Settings

Set the password for the administrator.
The password for the administrator is used for authentication for using a secure function.
It is also possible to set whether the user data should be deleted when authentication fails.

[Startup]
If administrator authentication is enabled, the screen below appears requesting the administrator password used at startup.

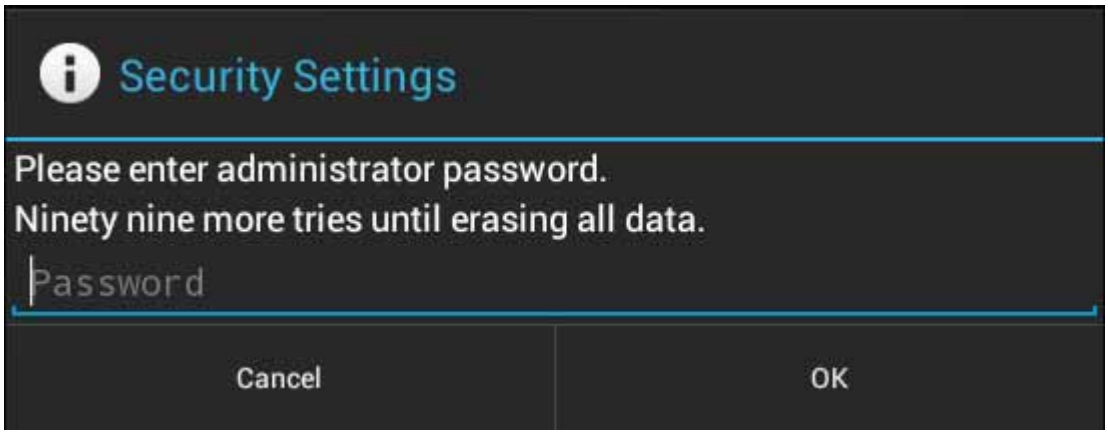


Figure 5.11

Enter the administrator password and then click "OK".
If you are already logged in as a user with system setting privileges, the authentication screen is not displayed even if administrator authentication is enabled.

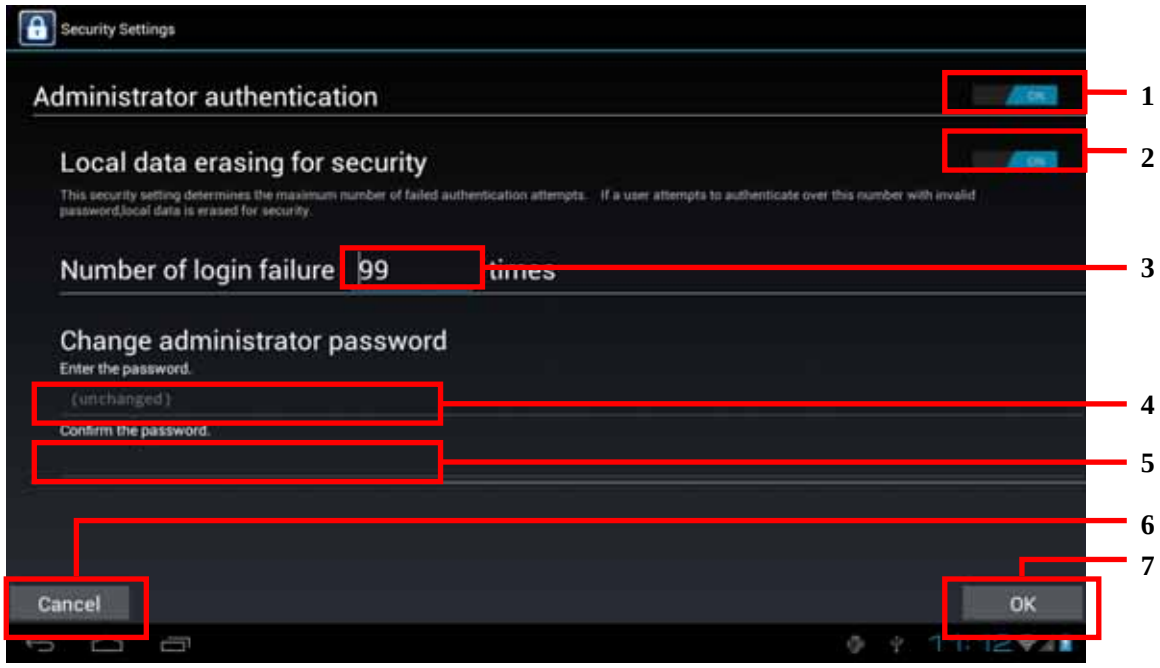


Figure 5.12 Security settings screen

Table 5.7

No.	Item	Description
1	Administrator authentication	Specify whether to enable or disable administrator authentication. Note that, even if administrator authentication is enabled, no administrator authentication screen is displayed for users who are granted system settings permission.
2	Local data erasing for secutiry	Specify whether to enable or disable the function that returns the terminal to the factory defaults when authentication has failed in succession the specified number of times.
3	Number of login failure	Specify the number of authentication failures allowed, using a one-byte number in the range from 0 to 99. If 0 is specified, the local data erasure is disabled.
4	Enter the password.	Enter the password for authentication. The password must consist of 1 to 32 one-byte alphanumeric characters. The password will not be changed if this field is left blank.
5	Confirm the password.	Enter the password for authentication again for confirmation.
6	Cancel	Terminates the security setting tool. A confirmation dialog appears if your edits have not been saved.
7	OK	Use this item to accept your edits.

5.6 AntiBurglar

Overview

Lock and unlock

A secret number (four-digit number) is used to lock or unlock the terminal.

Theft detection method

This program judges that a theft has occurred when power supply (from the contactless charger) stops.

Alarm (upon theft occurrence)

The loud warning buzzer sounds for 60 seconds.

Notes

Power failure

When a power failure occurs, this program also behaves as if a theft occurred because power supply (from the contactless charger) stops.
In other words, **the loud warning buzzer also sounds when a power failure occurs**.

Battery removal

The program does not work if the battery is removed at the time of theft.
In other words, **no loud warning buzzer doesn't sound if the battery is removed.**

After alarm issuance

Once the loud warning buzzer sounds upon theft detection, the terminal enters unlocked state (theft monitoring is disabled).
In other words, **no loud warning buzzer sounds immediately after alarm issuance**.

Adaptor

Theft detection monitors only power supply from the contactless charger.
Even if the AC adapter or car adapter is removed, this program will not judge this event as a theft.

Specifications

Package name and apk file name

Package name: jp.casio.vx.util.antiburglar
apk file name: AntiBurglar.apk

Startup method

This **AntiBurglar** program is called from **Job Menu**.
On a system that does not use **Job Menu**, this program can be started from the Android Home screen or another program.

Configuration

The **AntiBurglar** program consists of two basic modules.

Theft protection application

This application provides a man-machine interface between the terminal and the user and handles password and other data inputs.

Theft monitoring service

This service, which has no screen, performs theft monitoring.

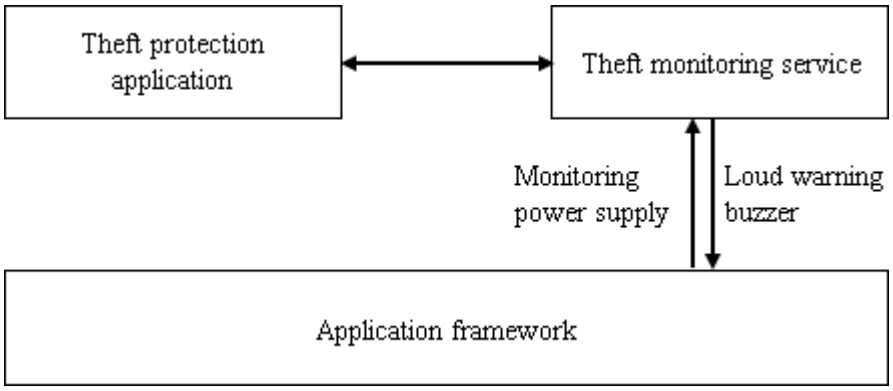


Figure 5.13

Internal status

The theft monitoring service holds the internal status that indicates whether the theft protection function is active or inactive.

Screen operation

Start Theft Monitoring (when theft protection of theft monitoring service is inactive)

If this program starts when theft protection (the theft protection function of the theft monitoring service) is inactive, the Start Theft Monitoring screen is displayed.
The user enters the secret number (4-digit number) and presses **OK**.
The secret number confirmation screen appears.
The user enters the same secret number for confirmation and presses **OK**.
The theft monitoring service starts its theft protection function and closes the screen.

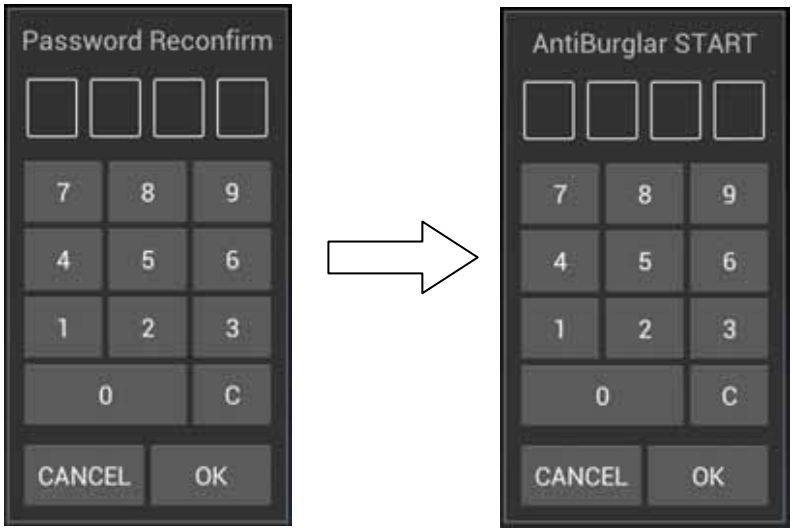
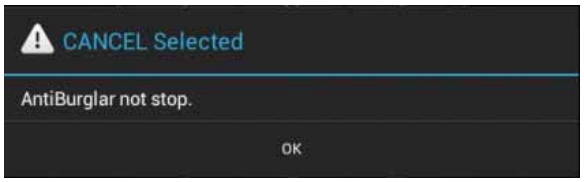


Figure 5.14

When CANCEL is pressed

When **CANCEL** is pressed, the following dialog appears and the screen display disappears with nothing done.



If no power supply is connected:
This program judges that a theft has occurred when power supply stops.
This means that the power must be supplied when theft monitoring starts up.
Otherwise, the Start Theft Monitoring screen disappears after displaying the following dialog.
After checking the power supply and related connections, you need to restart the theft monitoring start function.

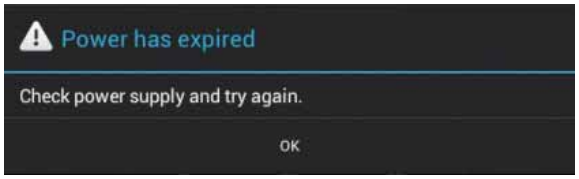


Figure 5.15

Stop Theft Monitoring (when theft protection of theft monitoring service is active)

If this program starts when theft protection (the theft protection function of the theft monitoring service) is active, the Stop Theft Monitoring screen is displayed.

When the user enters the secret number (4-digit number) and presses **OK**, the theft monitoring service stops the theft protection function and the screen display disappears.

That is to say, theft monitoring service continues.

This program automatically starts if a theft is detected (see the theft alarm timing chart).

Figure 5.16

When CANCEL is pressed

When **CANCEL** is pressed, the following dialog appears and the screen display disappears with nothing done.

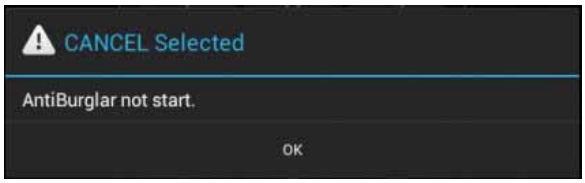


Figure 5.17

Secret number input error

If the entered secret number is incorrect, the Stop Theft Monitoring screen disappears after displaying the following dialog.

You need to restart the theft monitoring stop function.

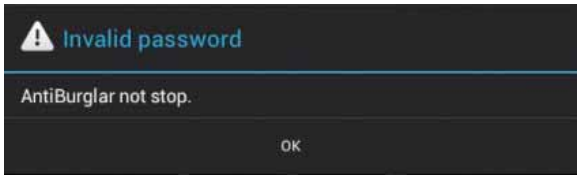


Figure 5.18

Theft detection

This program judges that a theft has occurred if power supply (from the contactless charger) stops and does not recover within one second. It displays the Stop Theft Monitoring screen.

Alarm (upon theft occurrence)

After detecting a theft (displaying the Stop Theft Monitoring screen), the program waits for four seconds and then sounds a warning pulse buzzer (with a width of 20 ms and a period of 100 ms) for five seconds.
Then, the warning buzzer sounds for one minute.
After this one-minute period, the warning buzzer will no longer sound.
Note that after the buzzer sounds, the terminal enters unlocked state.

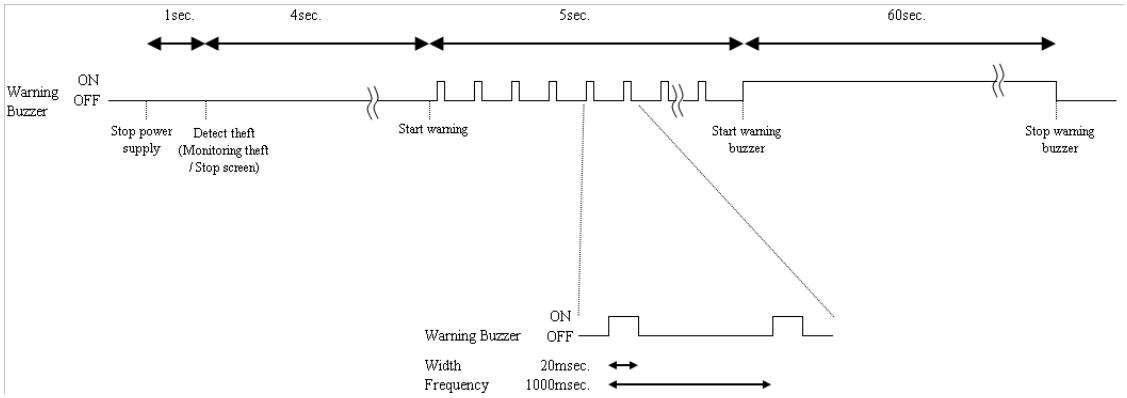


Figure 5.19

Power recovery during alarm issuance
If the power supply recovers during the alarm, the program judges that no theft has occurred.
More specifically, the following steps are performed:

1. The warning buzzer stops.
2. The Stop Theft Monitoring screen disappears.
   If the user is entering the secret number on the Stop Theft Monitoring screen, the screen disappears without waiting for the completion of entry.
3. The theft monitoring service restarts theft monitoring.

6. System Operation Tools

6.1 Software List

Table 6.1

Icon	Software name	Package name
	File Manager	com.Mitac.FileManager
	WLAN Tool	jp.casio.vx.util.comm.netsearch
	Backup / Restore	jp.casio.vx.util.kitting.backuptool
	Copy Devices	jp.casio.vx.util.kitting.clone

6.2 File Manager

File Manager provides file management functions.
You can select a type of storage in the left side of the screen. The right side of the screen shows a directory content list.
When you select a folder in the directory content list, a list of the content of the selected folder is displayed.
When you select a file in the directory content list, the browser or other application associated with the file type is invoked.

Figure 6.1

1. Settings menu

■ Settings menu
From the Settings menu, you can configure the following settings:
New, Sorting, Display Mode, Edit, Search, and Properties

When you press and hold an item in the directory content list, an edit menu appears.

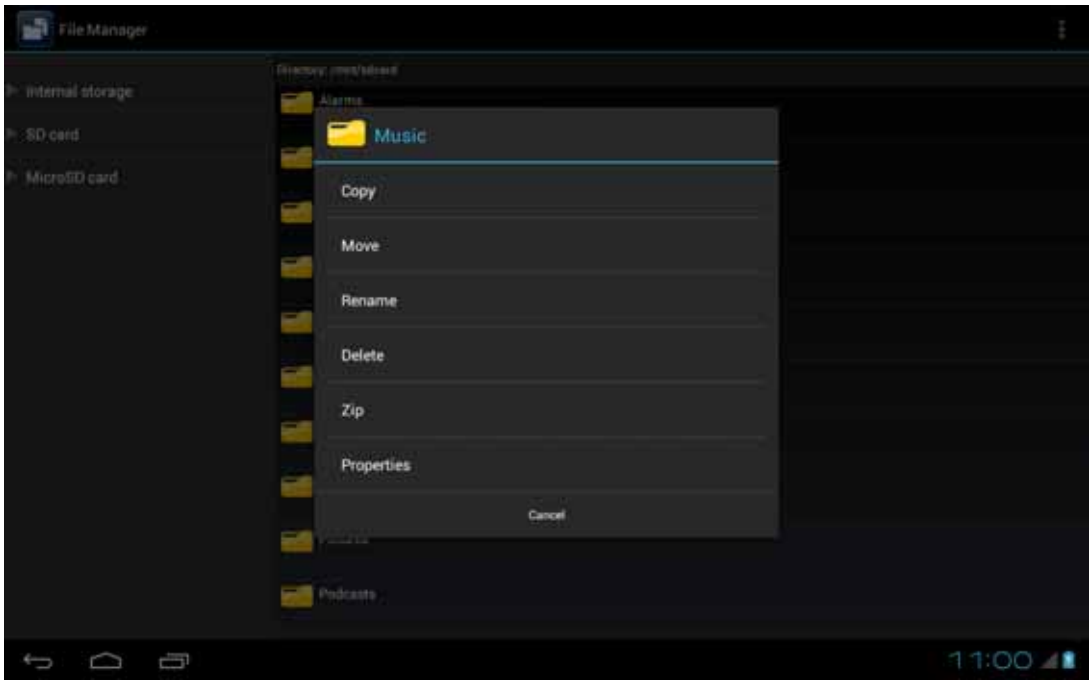


Figure 6.2

6.3 WLAN Tool

The purpose of this utility is to check the wireless LAN signal status.

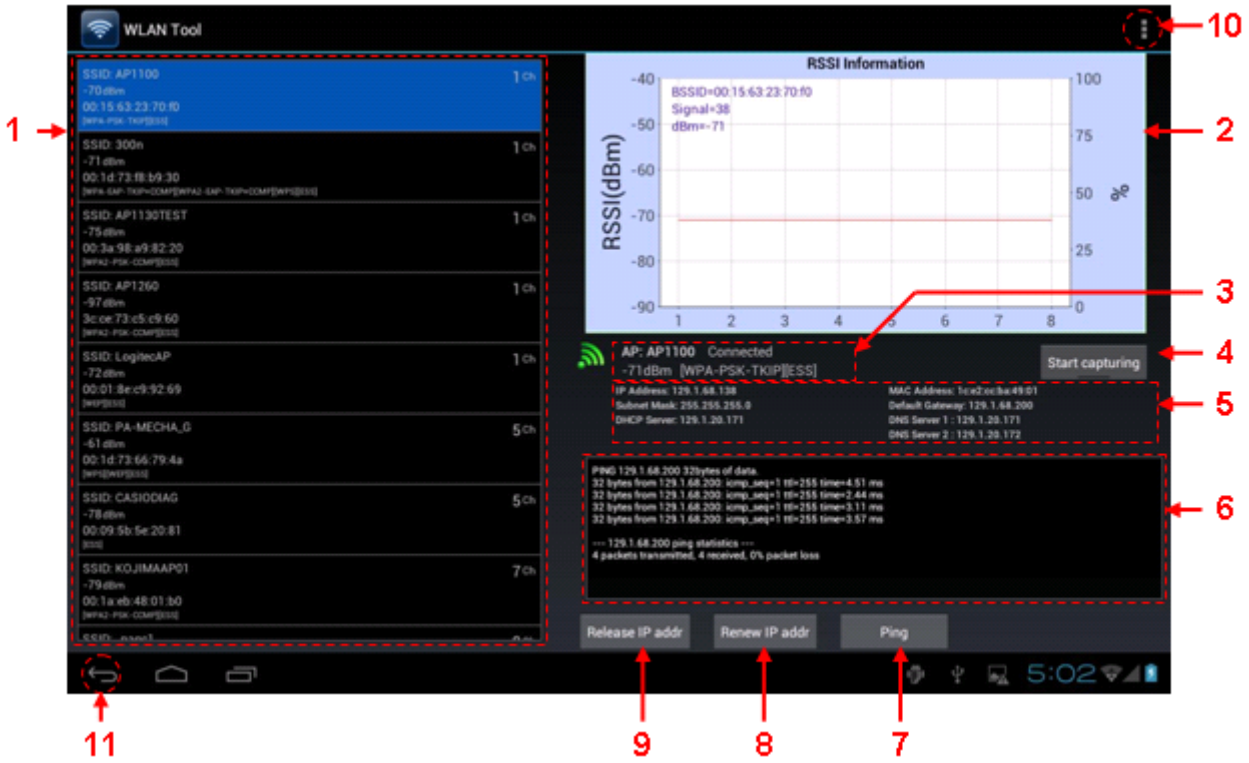
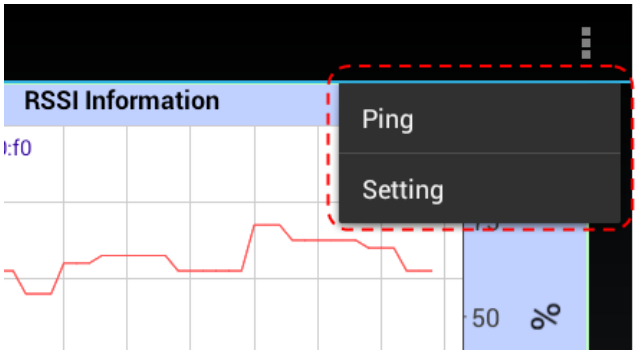
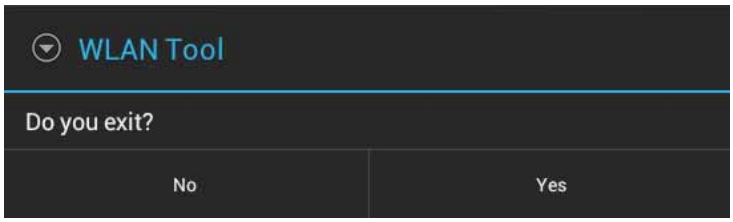


Figure 6-1 Main screen (in landscape layout)

Table 6-1 Items list

No.	Item	Description
1	Access-point list	A list of detected access-points is displayed. The connected access-points are highlighted.
2	Signal strength graph	This graph indicates the time-dependent change of the strength of signals received from the access-point connected at present.
3	Remote station information	The following remote station information is displayed. - SSID - Connection status - Electric field strength - Encryption status
4	Signal Strength Log capturing	Starts or stops signal strength log output. Start capturing is displayed if log output is not in progress. Stop capturing is displayed if log output is in progress.
5	Local station information	Detailed IP information of the connected network is displayed. - Local station MAC address - Local station IP address - Subnet mask - Default gateway - DHCP server - DNS server
6	Ping execution result	The result of Ping execution is displayed.
7	Ping	Execute ping.

		Note: Specify the Ping properties on the Ping screen.
8	Release IP address	The IP address of the local terminal is released.
9	Renew IP address	The IP address of the local terminal is renewed.
10	Setting Menu	When this control is pressed, the following startup menu is displayed. - Ping Settings screen - Environment Settings screen 
11	Exit	When this control is pressed, the following screen is displayed.  Pressing Yes terminates this utility.

[Additional explanation]

1. If this utility is started when the terminal wireless LAN is **OFF**, the following screen is displayed:

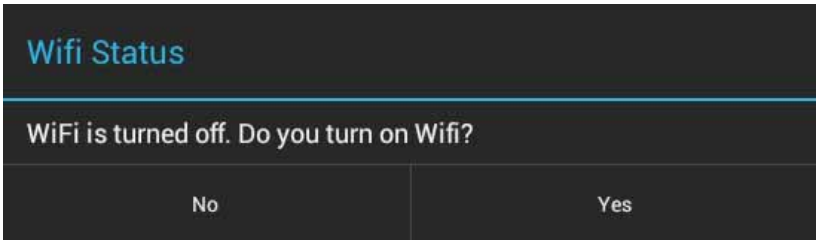


Figure 6.3

Pressing **Yes** enables the wireless LAN and displays the main screen of this utility.
Pressing **No** terminates this utility.

2. The content of the access-point list is refreshed at 10-second intervals.
   Note that the access-point list will not be refreshed when signal strength log output is enabled by pressing the Signal Strength Log Measurement control.

3. In case the screen is rotated and display direction (portrait/landscape) is changed, following behaviors are occurs.
   - Signal strength graph is reset once just after display is changed.
   - If ping is running, ping is stopped.

Ping Settings screen

This screen is used to configure Ping properties.

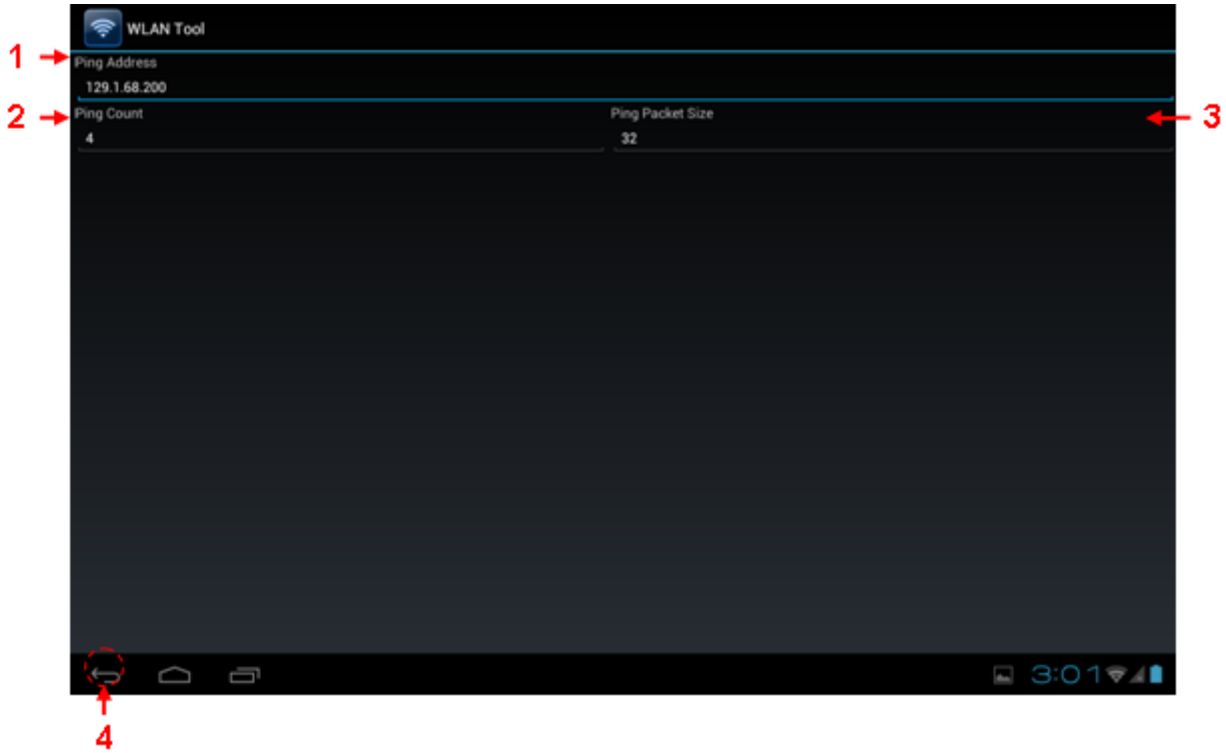


Figure 6-2 Ping Settings screen (in landscape layout)

Table 6-2 Items list

No.	Item	Description
1	Ping address	Specify the IP address of the remote stations to which the Ping is to be sent. Default value IP address of the default gateway Note: The field will be left blank if the IP address of the default gateway cannot be obtained.
2	Number of times	Specify the number of times the packet is to be sent to the remote station during Ping execution. Default value 4 (times) Specifiable range 1 to the maximum value in the Android standard specification
3	Packet size	Specify the size in bytes of the packet to be sent to the remote station during Ping execution. Default value 32 (bytes) Specifiable range 9 (bytes) to the maximum value in the Android standard specification
4	Exit	Closes this screen.

Environment Settings screen

This utility provides a screen for environment settings.

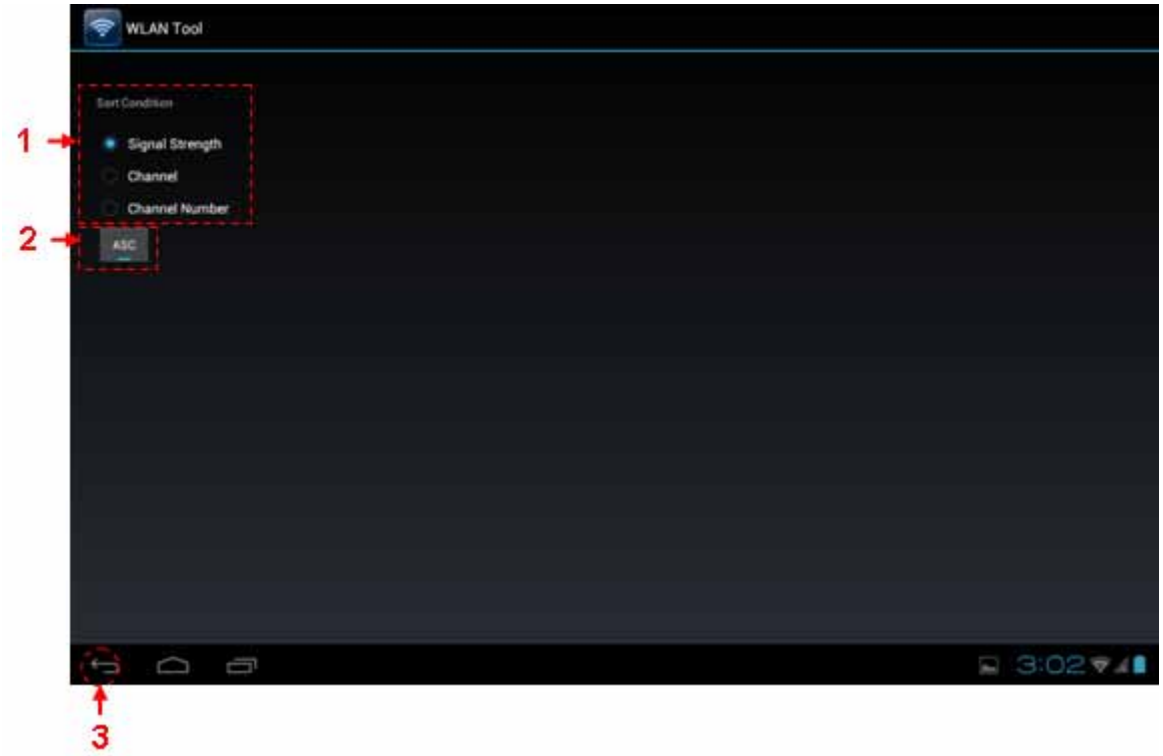


Figure 6-3 Environment Settings screen (in landscape layout)

Table 6-3 Items list

No.	Item	Description
1	Category for access-point list sorting	You can change the order in which the access-point list on the main screen is sorted so that it is based on one of the following categories: Signal strength Channel Number of channels Note: Sorting is based on the number of channels detected for each access-point by the terminal.
2	Ascending or descending order for access-point list sorting	Specify whether to sort the access-point list in ascending or descending order of items belonging to the specified category.
3	Exit	Closes this screen.

Logs

Each of the following logs is described below.

1. Signal strength log
2. Ping log

Signal strength log

Information on the strength of the signal received (at one-second intervals) by the terminal from the access-point during signal strength log measurement is stored in the following log file, one record at a time, at an arbitrary time.

/mnt/sdcard/WL.Signal.Log.txt

When the log file size exceeds 1 MB, a backup of the log file is created in the same folder (file name: WL.Signal.Log.bk.txt).
(If the previous backup file exists at the time of backup execution, it will be deleted.)

Table 6-4 Items (each corresponds to one record)

No	Item	Description
1	Date	The date the signal was received from the access-point.
2	Time	The time the signal was received from the access-point.
3	Signal strength (dBm)	The strength (dBm) of the signal received from the access-point.
4	Signal strength (%)	The strength (%) of the signal received from the access-point.
5	MAC address	MAC address of access-point
6	Channel	Channel of access-point

<Example>

```
2012/08/01,13:54:59,-61dBm,58%,00:15:63:23:70:f0,1
2012/08/01,13:55:00,-61dBm,58%,00:15:63:23:70:f0,1
2012/08/01,13:55:01,-48dBm,84%,00:15:63:23:70:f0,1
2012/08/01,13:55:02,-48dBm,84%,00:15:63:23:70:f0,1
2012/08/01,13:55:03,-48dBm,84%,00:15:63:23:70:f0,1
```

Date Time RSSI (dBm) RSSI (%) MAC address Channel

Ping log

The responses resulting from Ping execution are automatically recorded in the following log file: /mnt/sdcard/WL.Ping.Log.txt

When the log file size exceeds 1 MB, a backup of the log file is created in the same folder (file name: WL.Ping.Log.bk.txt).
(If the previous backup file exists at the time of backup execution, it will be deleted.)

<Example>

```
2012/08/01,13:54:50,PING 129.1.68.200 (129.1.68.200) 24(52) bytes of data.
2012/08/01,13:54:51,32 bytes from 129.1.68.200: icmp_seq=1 ttl=255 time=44.8 ms
2012/08/01,13:54:52,32 bytes from 129.1.68.200: icmp_seq=2 ttl=255 time=7.00 ms
2012/08/01,13:54:53,32 bytes from 129.1.68.200: icmp_seq=3 ttl=255 time=2.20 ms
2012/08/01,13:54:54,32 bytes from 129.1.68.200: icmp_seq=4 ttl=255 time=6.88 ms

2012/08/01,13:54:55,--- 129.1.68.200 ping statistics ---
2012/08/01,13:54:56,4 packets transmitted, 4 received, 0% packet loss
```

6.4 Backup / Restore

Use this tool to back up and restore the terminal data.

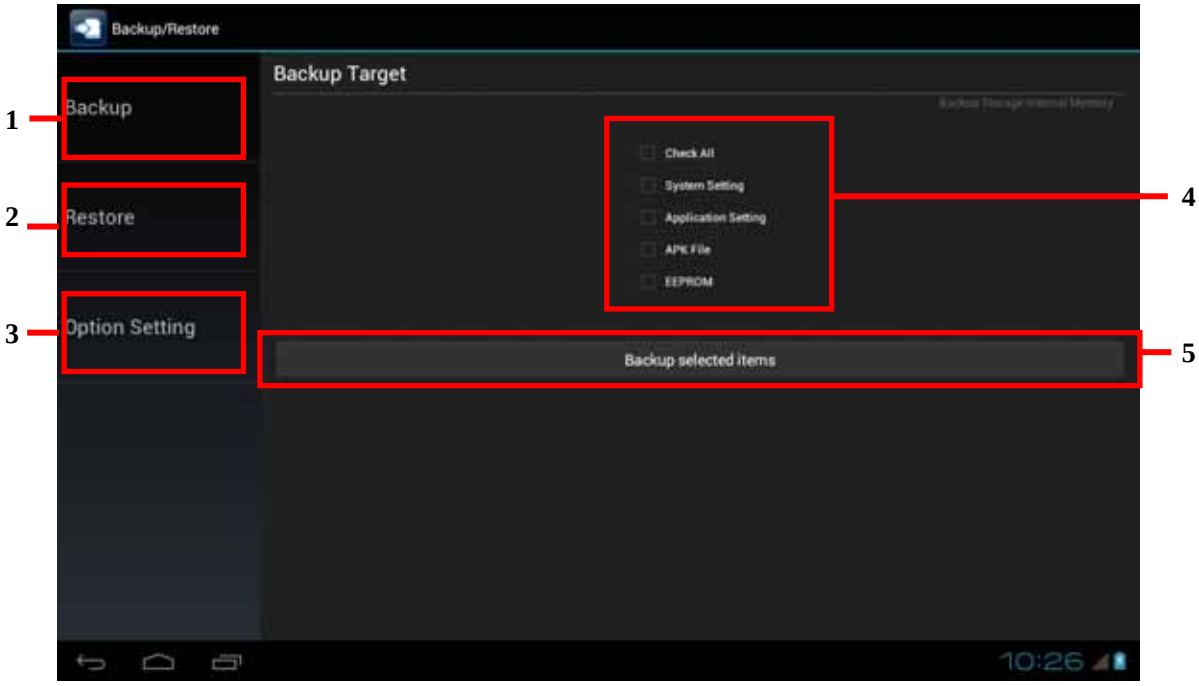


Figure 6.4 Backup screen

1. Backup menu
2. Restore menu
3. Options Settings menu
4. Check boxes for backup target selection
5. Backup start

■ Backup menu
Used to move to the backup screen.

■ Restore menu
Used to move to the restore screen.

■ Options Settings menu
Use to move to the Options Settings screen.

■ Check boxes for backup target selection
Select the data backup target.

■ Backup start
This control starts backup of the backup target data selected in **4**.

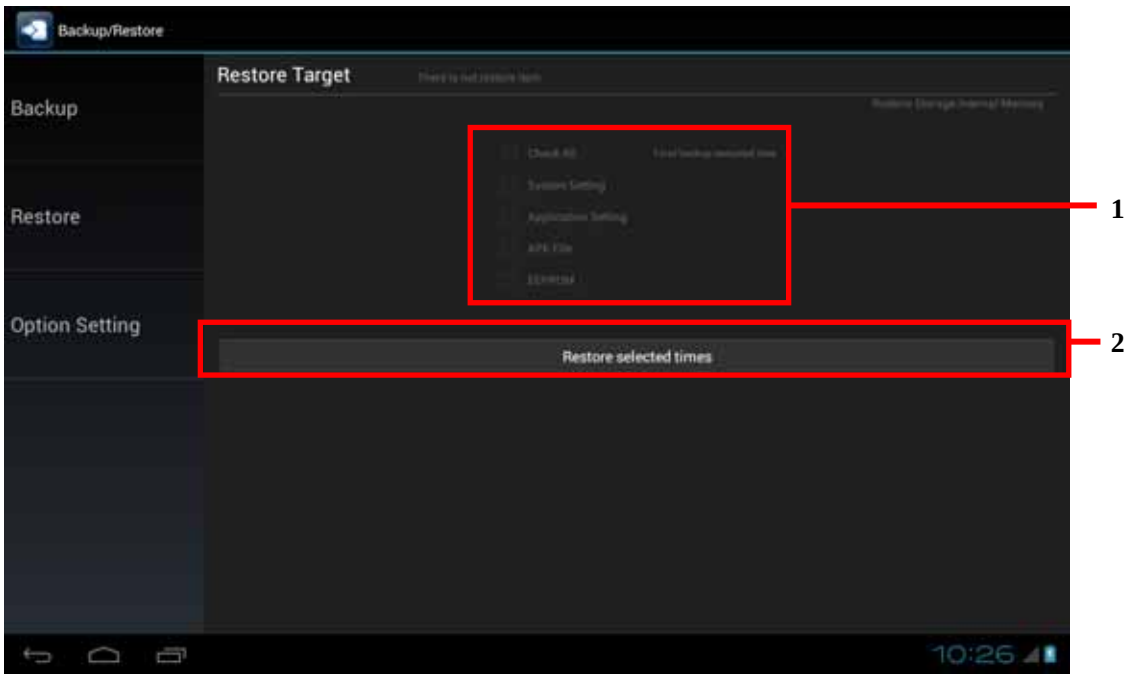


Figure 6.5 Restore screen

1. Checkboxes for restore target selection
2. Restore start

■ Checkboxes for restore target selection
Select the data restore target.

■ Restore start
This control starts restore of data stored at the location specified on the Options Settings screen.

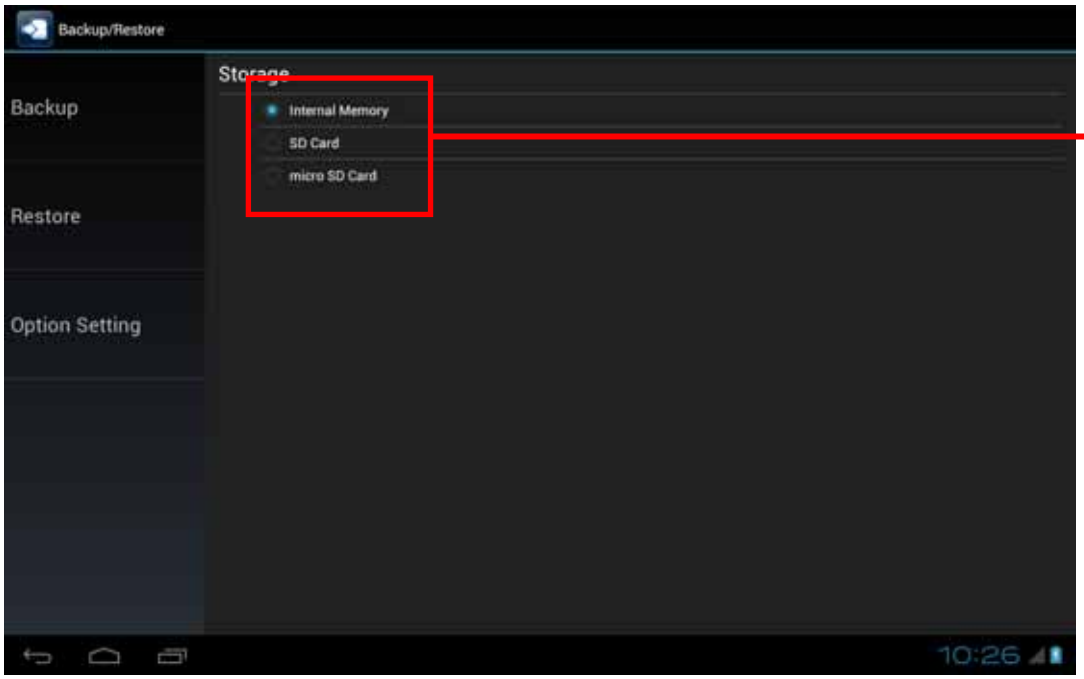


Figure 6.6 Options Settings screen

1. Data location radio buttons

■ Data location radio buttons

Select the location of the backup or restore data.

Table 6-5 Backup/Restore target in “Settings”.

No.	Item		Target of Backup/Restore
1	Wi-Fi		Yes
2	Ethernet		Except “Cradle IP”
3	Bluetooth		Except “Pairing list”
4	Data Usage		Yes
5	More…		
6		Airplane mode	Yes
7		VPN	No
8		Tethering & portable hotspot	No
9		NFC	Yes
10		Wi-Fi Direct	No
11		Mobile networks	No
12	Sound		Yes
13	Display		Yes
14	Apps		Yes
15	Accounts & sync		No
16	Location services		Yes
17	Security		Except followings • SIM card lock • Trusted credentials enable/disable
18	Language & input		Except “Pico TTS” settings
19	Date & time		Except “Set date” and “Set time”
20	Accessibility		Yes
21	Developer options		Except followings • Show screen updates • Background process limit

6.5 Copy Devices

Overview

This software is intended to streamline application installation and configuration operations, which are performed by distributors when delivering devices to a customer.

More specifically, this software eliminates the necessity for performing application installation and configuration on each user terminal. With this software, the distributor needs to perform installation and configuration on only one owner terminal, whose data will then be automatically and efficiently cloned to a huge number of client terminals.

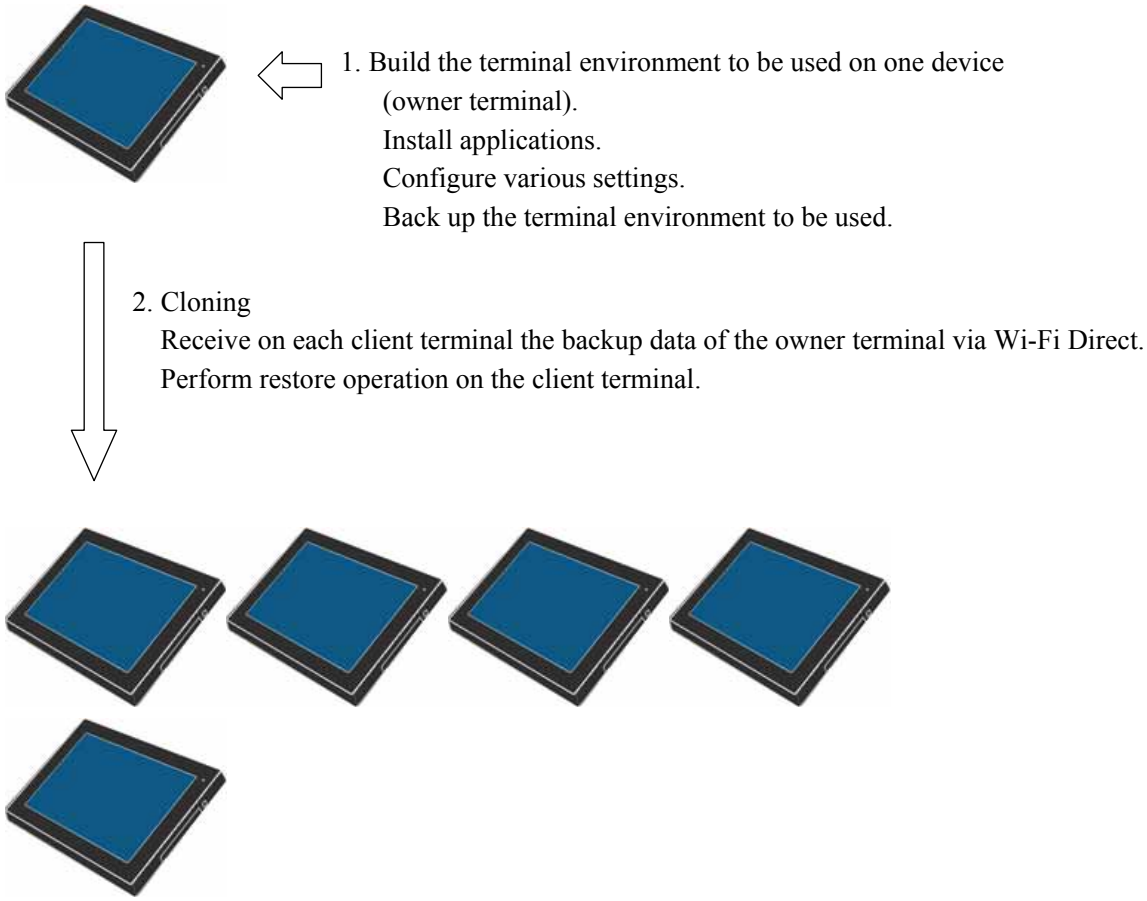

1. Build the terminal environment to be used on one device
(owner terminal).
Install applications.
Configure various settings.
Back up the terminal environment to be used.
2. Cloning
Receive on each client terminal the backup data of the owner terminal via Wi-Fi Direct.
Perform restore operation on the client terminal.

Figure 6.7

This software is designed to inherit the operability of conventional models because it is generally used for kitting, rather than being used by ordinary business users, as described above.

Operating environment

The operating environment for this software is as follows:

- Each terminal must be configured to enable Wi-Fi Direct.
- The backup data to be transferred must be stored at built-in storage in advance (see note 1).
- Including above backup data, the memory usage of built-in storage (see note 1) should be less than 2 GB.
- This software should be used when the terminal's remaining battery power is at least 30%. If the remaining battery power is lower than 30%, a warning dialog appears before execution.

This software uses TCP/IP or HTTP for terminal search and data transfer.

Note: The path of built-in storage is /mnt/sdcard.

Basic Functions

1) Cloning of the owner terminal data

The built-in storage of client terminal is copied by receiving the data (including backup data) in built-in storage of owner terminal.
After the data in built-in storage is copied, the data except in built-in storage is also copied if restore is executed on client terminal.

The following folders in built-in storage are not applicable.
- LOST.DIR (wreck of files broken by system inconsistent)
- The folder that is not permitted to write (example: android_secure)

2) Efficient and continuous cloning

This software performs cloning using high-speed Wi-Fi Direct communication.
Because the owner terminal performs the following steps continuously, it can treat even client terminals added after one copy session as cloning targets.

<Owner terminal>
1. Zip the data to transfer.
2. Search for target Wi-Fi Direct devices.
3. In case target Wi-Fi Direct devices are existed, connect with first target Wi-Fi Direct device.
4. After connecting is completed, receive the pairing notification from client device.
5. Notify the client terminal of the completion of preparation of data transferring.
6. Wait the completion of data reception by the client terminal.

<Client terminal>
1. Search for target Wi-Fi Direct devices.
2. If the Wi-Fi Direct owner terminal exists, check/execute paring.
3. Notify the owner terminal of confirming pairing.
4. After receiving the completion of preparation the data to transfer by owner terminal, start data reception.
5. After completing of data reception, notify the owner terminal of the completion of data reception.

Connecting procedures 3 - 5 of owner terminal are sequential behavior to connect with each client terminal.
After connecting between owner and client terminal, receiving procedure 4 of client terminal is executed by multiple client terminals in parallel.

3) Time adjustment

After completing of data reception, client terminal time is adjusted by owner terminal time when to display the restore confirmation dialog.

4) Localization

If Japanese is selected as the language, various kinds of data are displayed in Japanese. If another language is selected, various kinds of data are displayed in English.

Operation Specification

Startup

Copy Devices, the package name of which is “jp.casio.vx.util.kitting.clone”, can be started from the Home Application.

Procedure

Firstly, perform the full backup on the owner terminal by using the basic utility **Backup/Restore** (see note 1).

The owner terminal can search the terminals, Wi-Fi Direct of which is enabled, as client terminals. For the owner terminal to search client terminals, client terminals must be started before the owner terminal starts searching.

Therefore, follow the following steps to copy terminals:
1. Start this application of both the owner and client terminals.
2. On the client terminal, select “Receiver mode” and push Start button.
3. On the owner terminal, select “Sender mode” and push Start button.

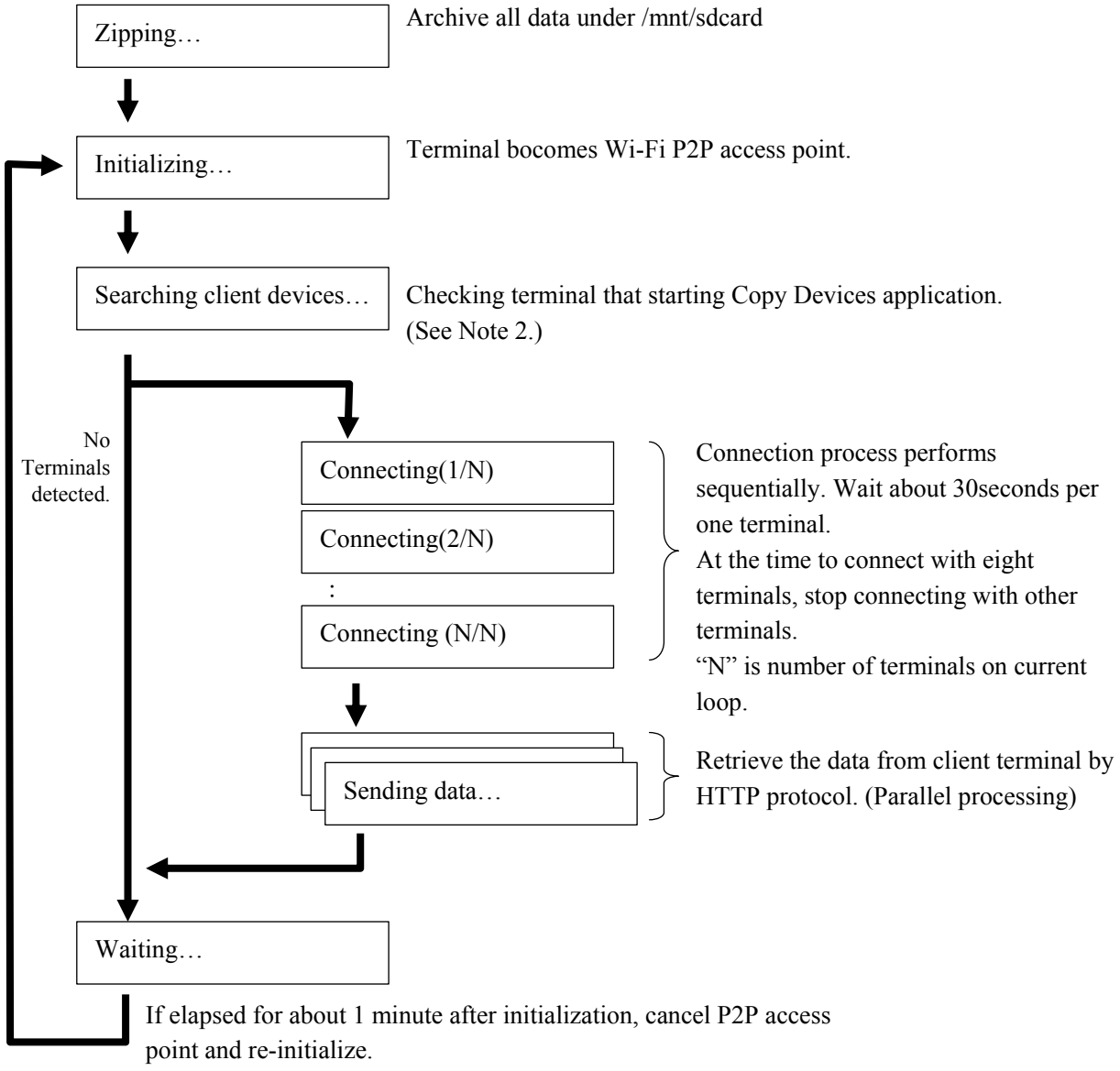
The owner terminal performs the following procedure consecutively.
A. Receive the requests from client terminals
B. Search client terminals
C. Pair with client terminals
D. Copy to client terminals

If Wi-Fi Direct is enabled in some client terminals during the owner terminal performing, these client terminals will be copied in the next procedure of the owner terminal.

In case the number of client terminal is five, it will work efficiently.
If there are more terminals, Wi-Fi Direct of which is enabled, as client terminal, it will take time to search client terminals.
Because of this reason, it is recommended the following steps in case of many client terminals.
(1). Select “Receiver mode” and push Start button at the each five client terminals.
(2). Select “Sender mode” and push start button on the owner terminal.
(3). After owner terminals display as “Connecting(n/N)”, start this application and push Start button on next five child terminals.

After these steps, please perform above (3) step repeatedly.
And in case the procedure for next client terminals does not start even if 1 minutes has passed after current client terminals display as "Searching parent device"
are copied, it's recommended to restart procedure by following steps.
A. Quit this software in the parent terminal. (Wi-Fi Direct is disabled automatically.)
B. Start this software in the parent terminal, and enable the "Wi-Fi Direct" and push "Start".

State transition diagram


Zipping…
Archive all data under /mnt/sdcard
Initializing…
Terminal bocomes Wi-Fi P2P access point.
Searching client devices…
Checking terminal that starting Copy Devices application.
(See Note 2.)
No Terminals detected.
Connecting(1/N)
Connecting(2/N)
:
Connecting (N/N)
Connection process performs sequentially. Wait about 30seconds per one terminal.
At the time to connect with eight terminals, stop connecting with other terminals.
"N" is number of terminals on current loop.
Sending data…
Retrieve the data from client terminal by HTTP protocol. (Parallel processing)
Waiting…
If elapsed for about 1 minute after initialization, cancel P2P access point and re-initialize.

Note1: To perform cloning again in response to some setting change on the owner terminal once backup data is transferred to a client terminal using this software, be sure to perform full backup on the owner terminal, rather than partial backup.

Note2: After the owner terminal has became the P2P access point , that owner terminal can not detect the late added client terminal whose Wi-Fi Direct enabled. In above case, the P2P access point mode on the owner terminal should be disabled to detect such client terminal.

Main Screen

The portrait screen layout is always assumed, regardless of the terminal orientation.

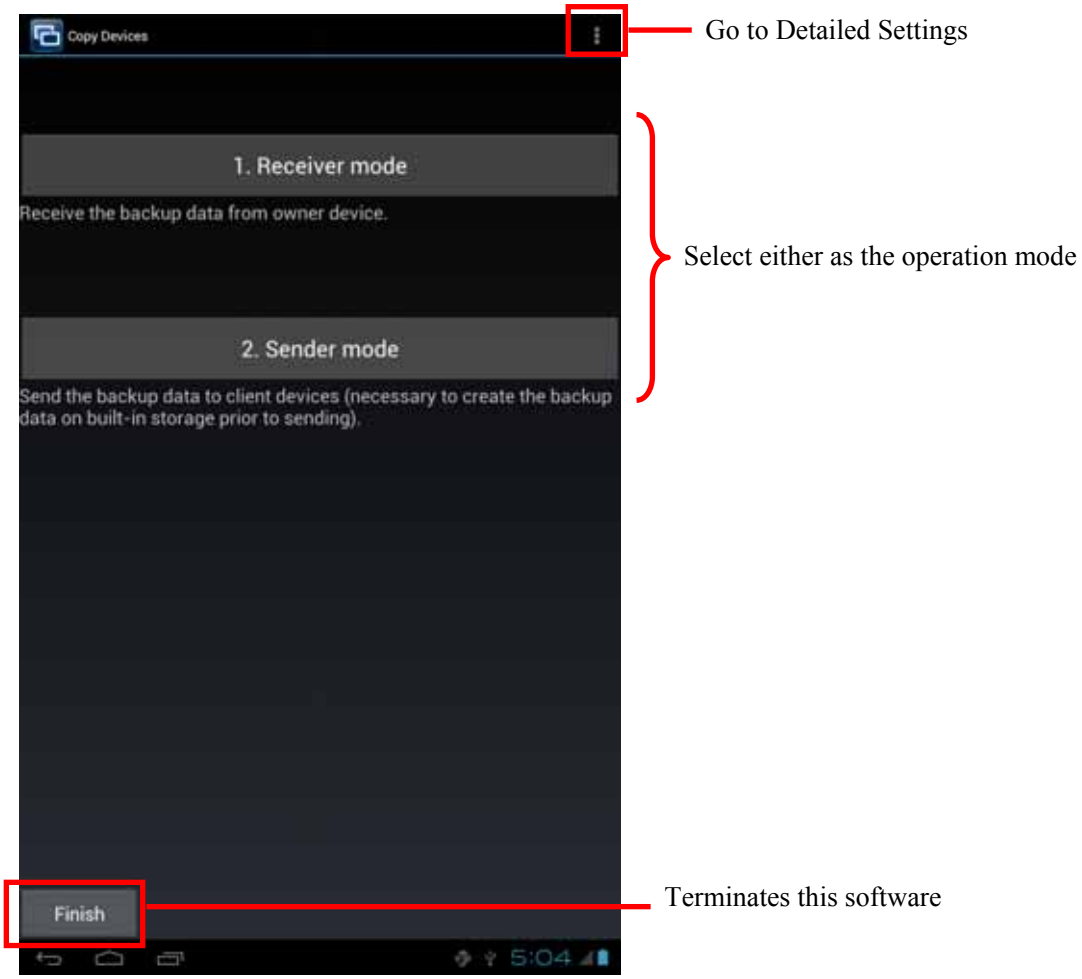

Copy Devices
Go to Detailed Settings
1. Receiver mode
Receive the backup data from owner device.
2. Sender mode
Send the backup data to client devices (necessary to create the backup data on built-in storage prior to sending).
Select either as the operation mode
Finish
Terminates this software
5:04

Figure 6.8

Detailed Settings

Generally, this software can be used with default settings. However, you can configure some operational information in settings of **Copy Devices**.

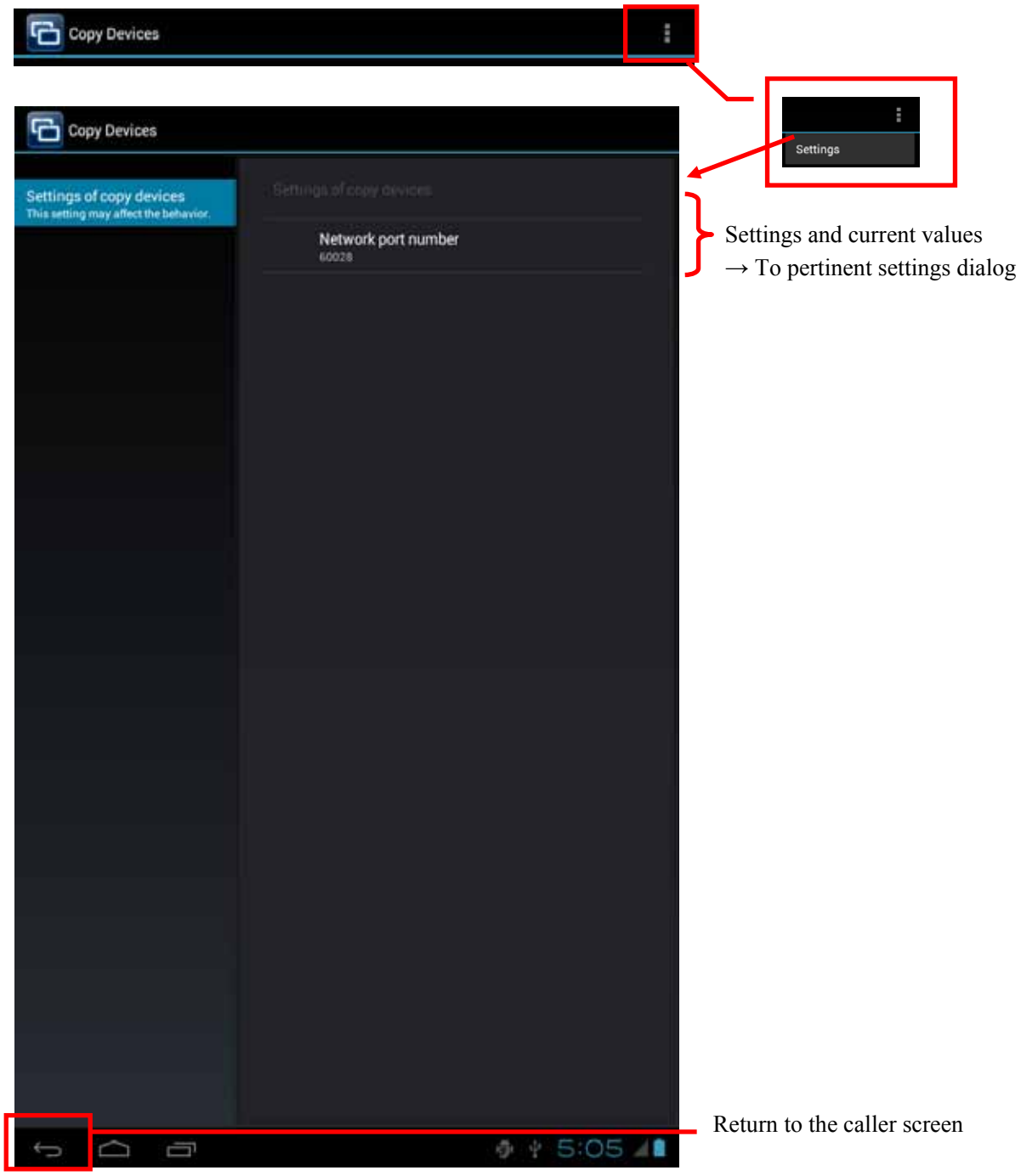


Figure 6.9

1) Network port number setting

You can specify a port number to be used for inter-terminal communication.
"60028" is set as the initial value.

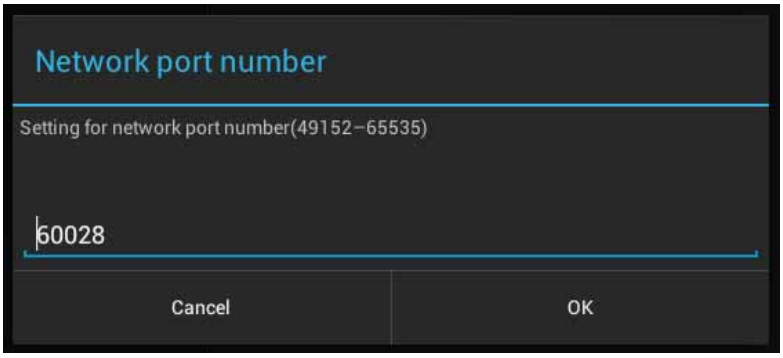


Figure 6.10

As a rule, this setting item should be left as is. It is provided in case that the port number conflicts with that of another application, etc.

Client terminal operation

1) Mode selection

Start the application and then select **1.Receiver mode** on the main screen.

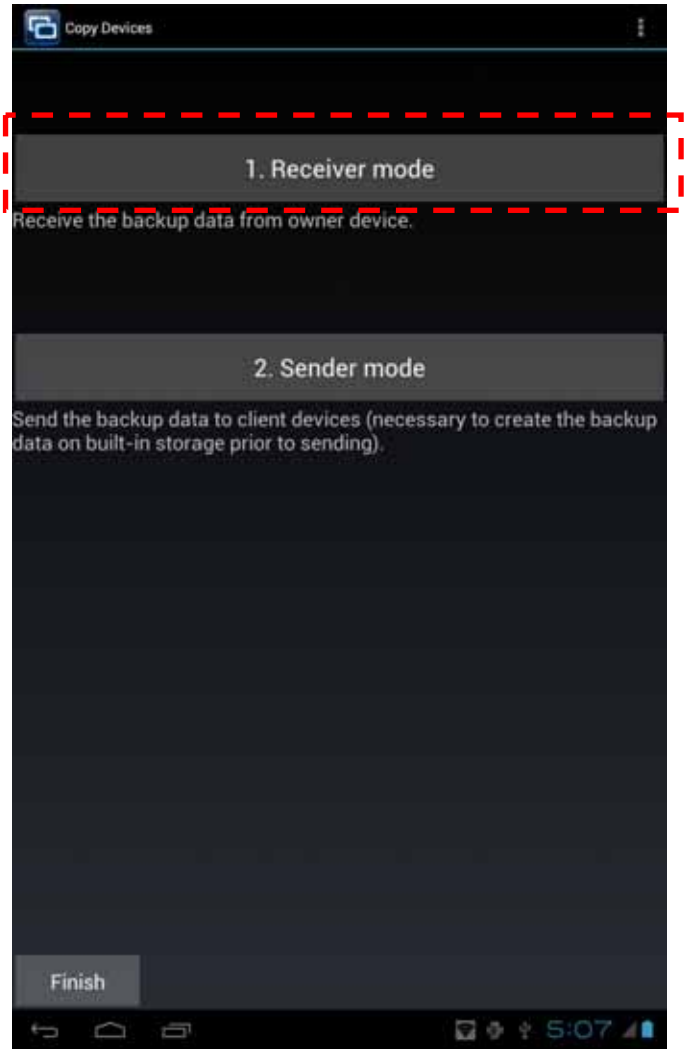

Copy Devices
1. Receiver mode
Receive the backup data from owner device.
2. Sender mode
Send the backup data to client devices (necessary to create the backup data on built-in storage prior to sending).
Finish
5:07

Figure 6.11

Table 6.2

Item	Operation
Finish	Terminates the application.

2) Operating environment check

At the time of mode selection, the software checks the remaining battery power and Wi-Fi Direct status. If either is inappropriate, the software displays a warning dialog as described below.

[If the remaining battery power is lower than 30%]

The following dialog appears after a long vibration:

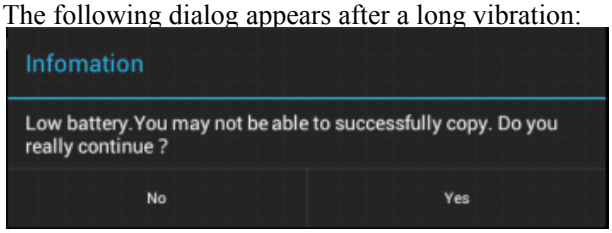


Figure 6.12

Table 6.3

Item	Operation
No	Closes the dialog and returns to the main screen.
Yes	Proceeds to the next screen and continues processing.

[If Wi-Fi Direct is disabled]

The state value of Wi-Fi, and the operation of either of the following 1 or 2.

1. If Wi-Fi is not enable, Wi-Fi Direct will be enable automatically. The following dialog appears after a long vibration, and wait Wi-Fi Direct to be enable. When Wi-Fi Direct will be enable, the dialog is closed automatically. Select “Receiver mode” to continue process again.

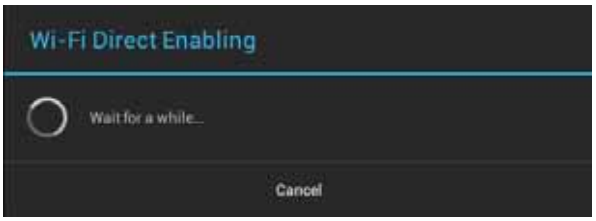


Figure 6.13

2. If Wi-Fi is enable, an operation to enable Wi-Fi Direct on setting screen. The following dialog appears after a long vibration:

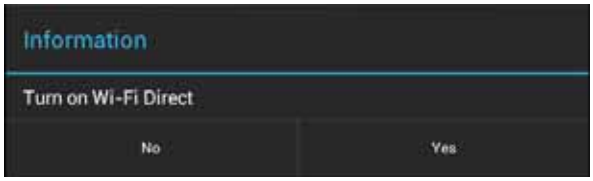
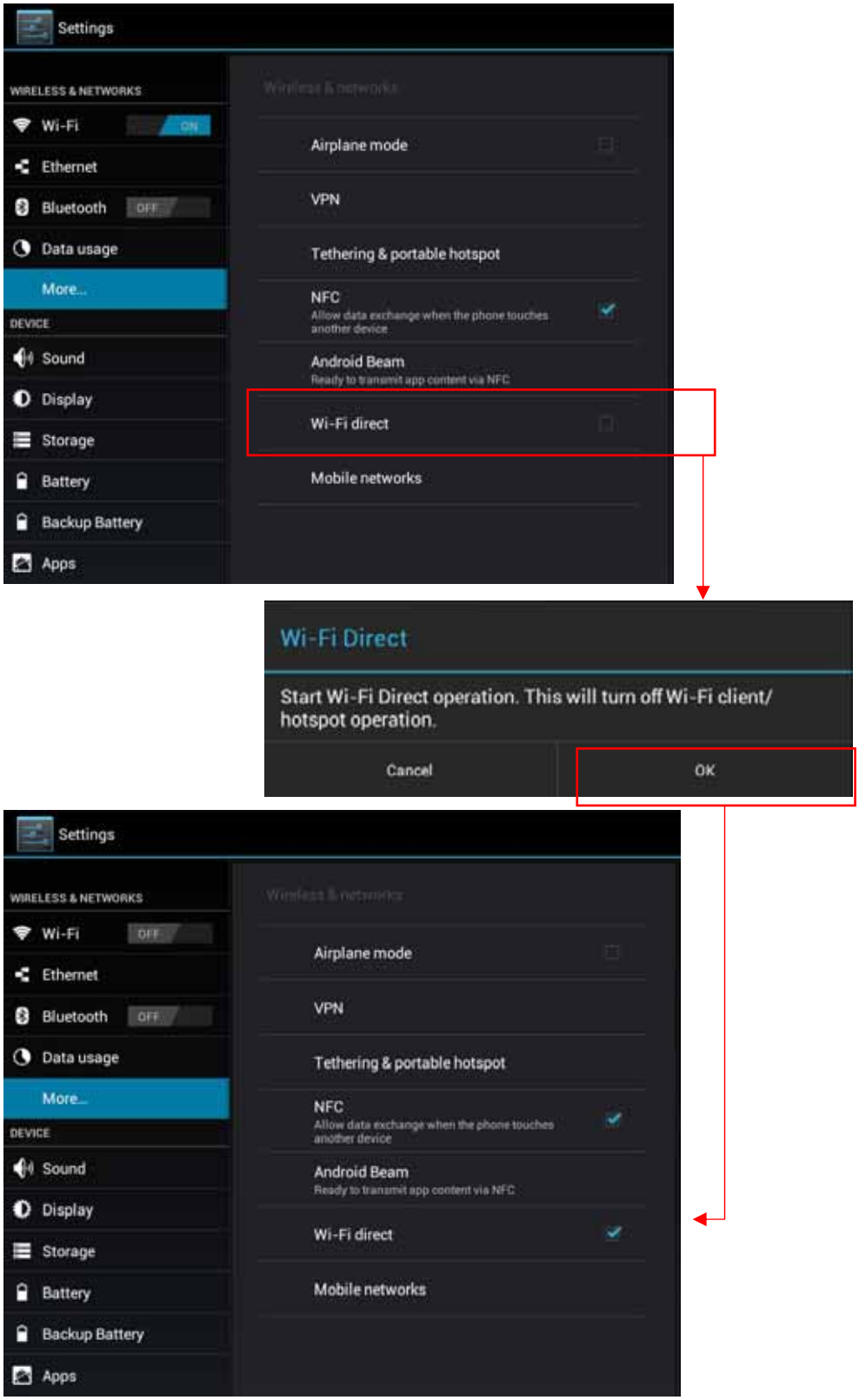


Figure 6.14

Table 6.4

Item	Operation
No	Closes the dialog and returns to the main screen.
Yes	Enters the Wi-Fi Direct settings screen. The main screen reappears when you select the back key on the settings screen.

When select “Yes”, screen enters settings, then check the Wi-Fi Direct.



Push [Back key] to return application, Select “Receiver mode” to continue process again.

3) Start check

If you push **Start** button, it waits for owner device to connect.

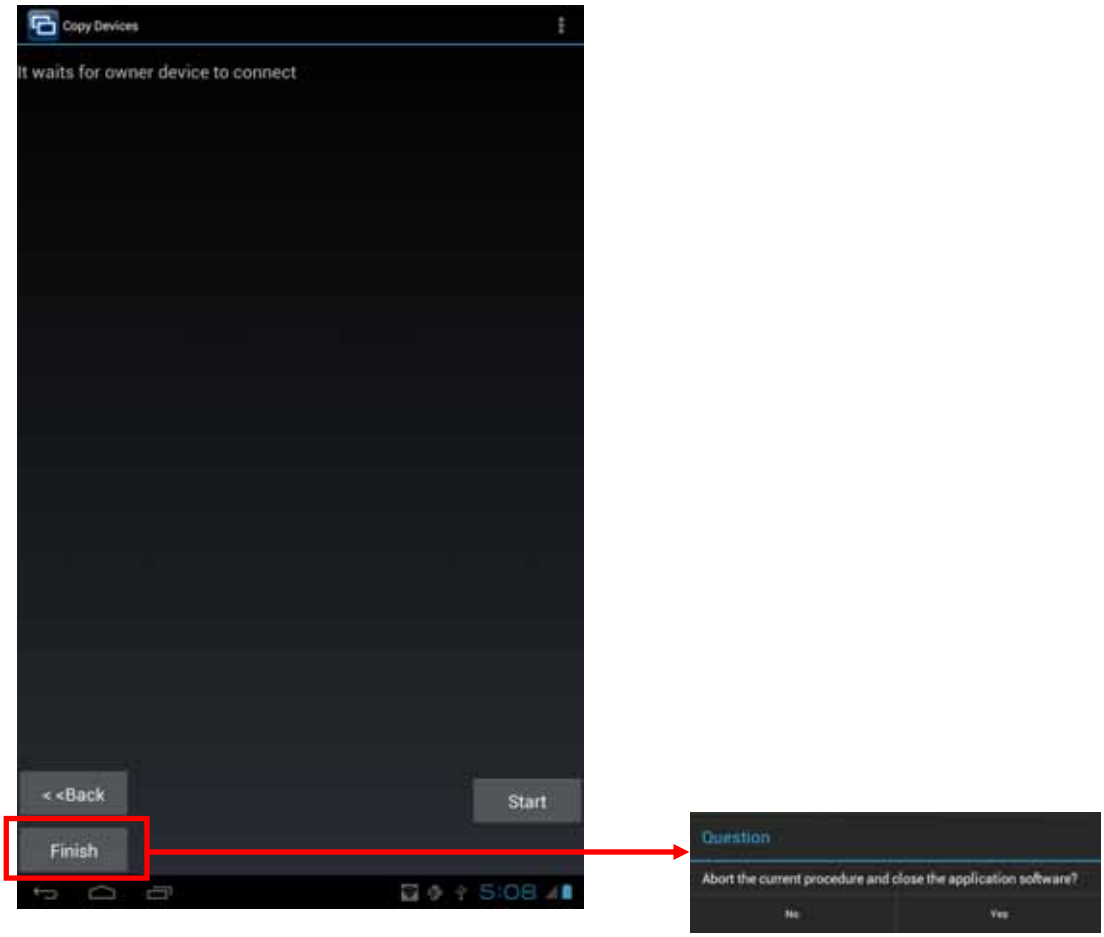


Figure 6.15

Table 6.5

Item	Operation
Start	Starts processing. A short sound and vibration are produced three times.
<<Back	Returns to the main screen. A long sound and vibration are produced once.
Finish	Terminates the application after displaying a termination confirmation dialog (to prevent operation errors during execution).

4) Data reception

Client terminals display the processing status in a blue background.

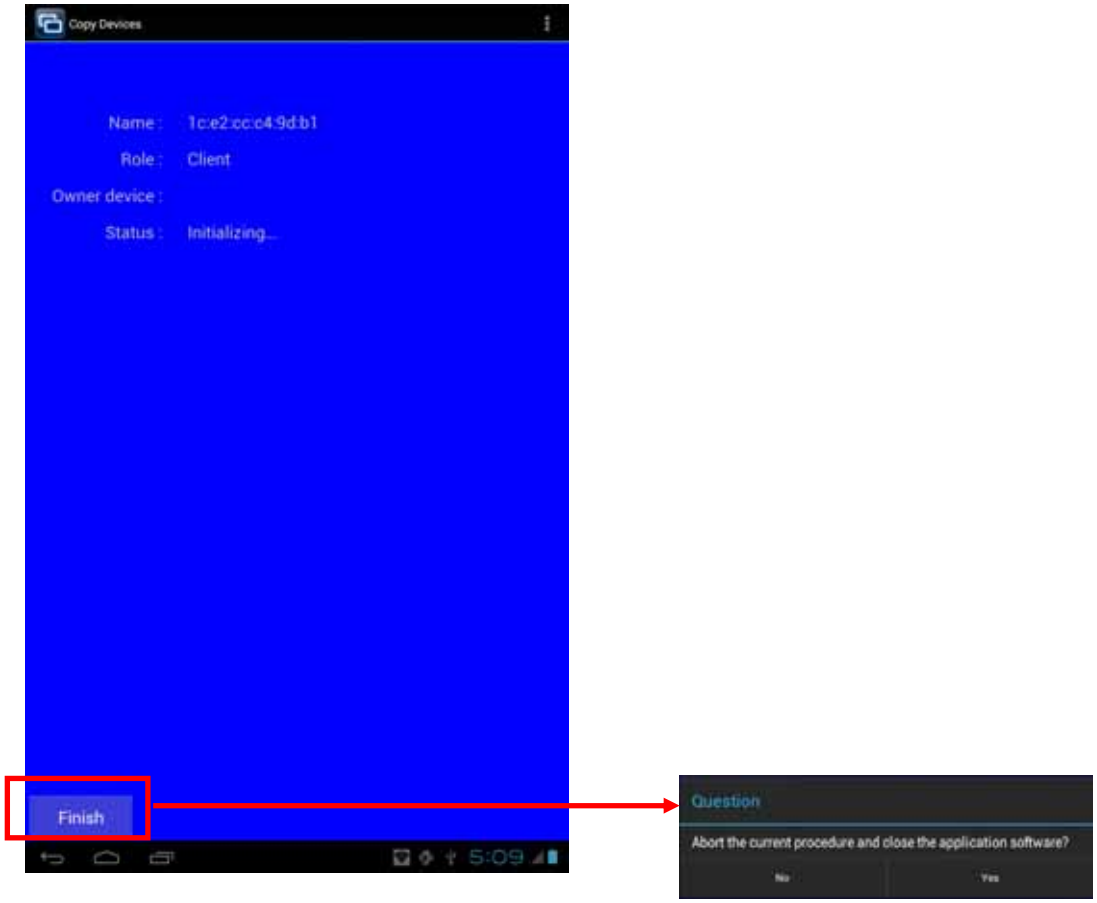


Figure 6.16

Table 6.6

Display item	Description
Name	MAC address of the local terminal
Role	"Client" is displayed, indicating that the terminal is a client terminal.
Owner device	MAC address of the owner terminal connected
Status	One of the following is displayed as the status: Initializing ... Searching for the owner terminal ... Owner terminal already detected. Waiting for connection for reception ... Receiving data ... Data reception failed Data reception completed Interrupted

Until data reception is completed, it retries automatically .

5) Data reception completed

When data reception and data unzip is completed, the background color changes to orange and a dialog appears, asking you to confirm whether to restore the received backup data.

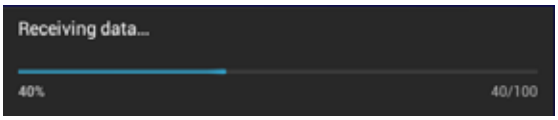


Figure 6.17

Figure 6.18

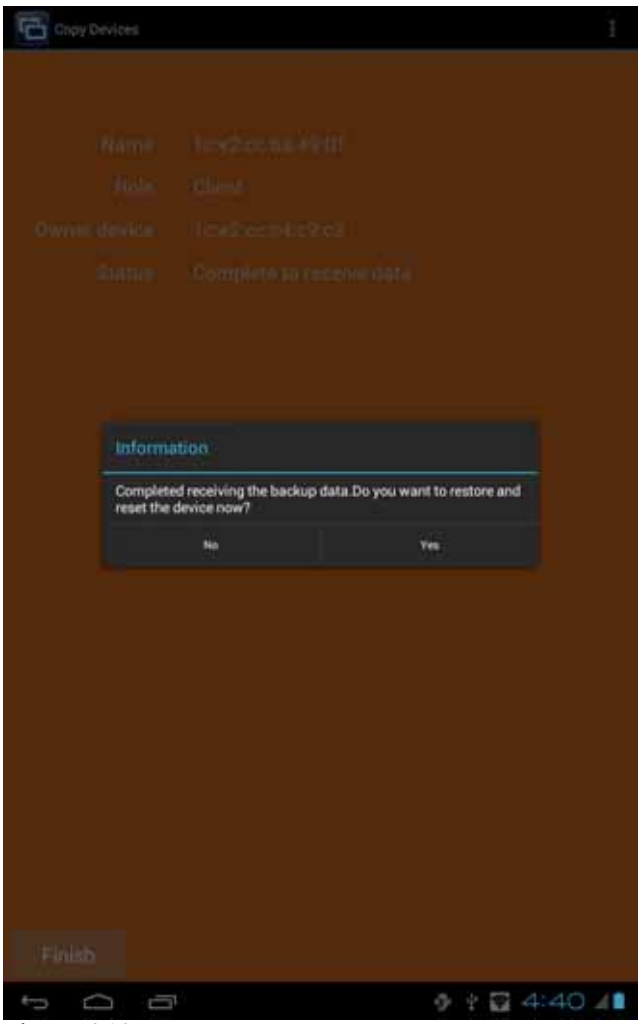


Figure 6.19

Table 6.7

Item	Operation
Yes	The backup tool is called to execute restore and reset.
No	The application terminates. No restore is performed. You need to manually perform restore.

Owner terminal operation

1) Mode selection

Start the application and then select **2.Sender mode** on the main screen.

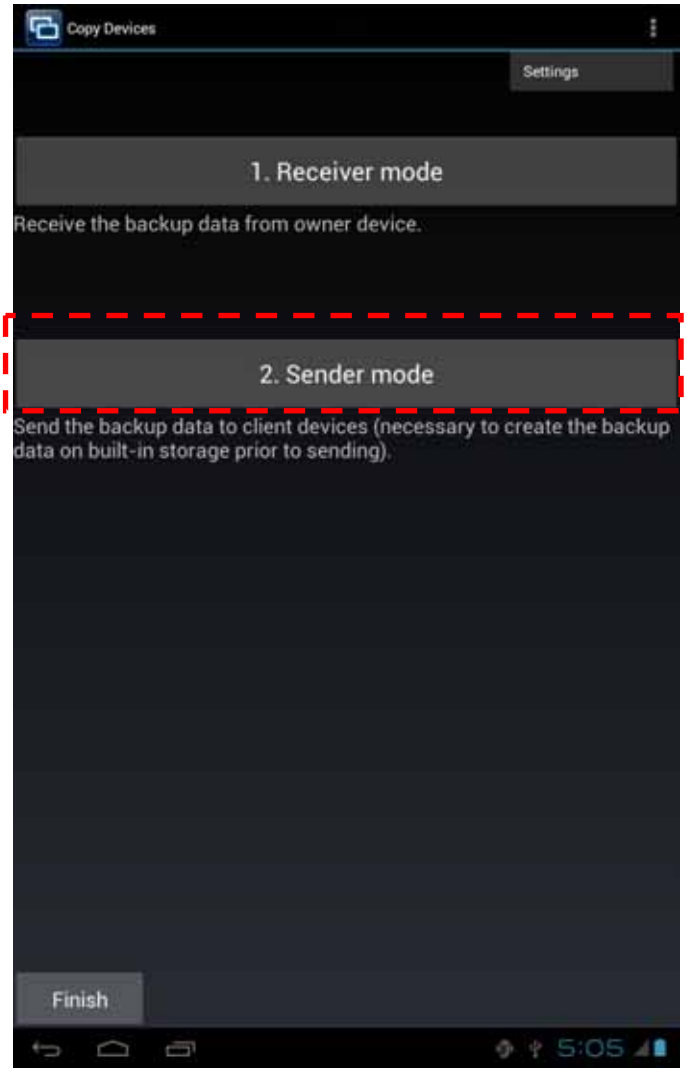

Copy Devices
Settings
1. Receiver mode
Receive the backup data from owner device.
2. Sender mode
Send the backup data to client devices (necessary to create the backup data on built-in storage prior to sending).
Finish
5:05

Figure 6.20

Table 6.8

Item	Operation
Finish	Terminates the application.

2) Operating environment check

At the time of mode selection, the software checks remaining battery power and the Wi-Fi Direct status. If either is inappropriate, the software displays a warning dialog as described below.

[If the remaining battery power is lower than 30%]

The following dialog appears after a long vibration:

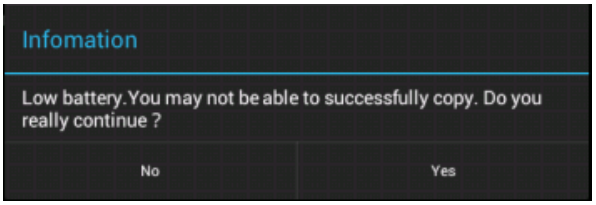


Figure 6.21

Table 6.9

Item	Operation
No	Closes the dialog and returns to the main screen.
Yes	Proceeds to the next screen and continues processing.

[If Wi-Fi Direct is disabled]

The state value of Wi-Fi, and the operation of either of the following 1 or 2.

1. If Wi-Fi is not enable, Wi-Fi Direct will be enable automatically. The following dialog appears after a long vibration, and wait Wi-Fi Direct to be enable. When Wi-Fi Direct will be enable, the dialog is closed automatically. Select “Receiver mode” to continue process again.

Figure 6.22

2. If Wi-Fi is enable, an operation to enable Wi-Fi Direct on settings screen. The following dialog appears after a long vibration:

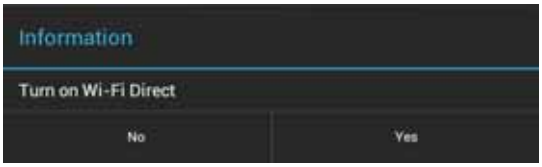
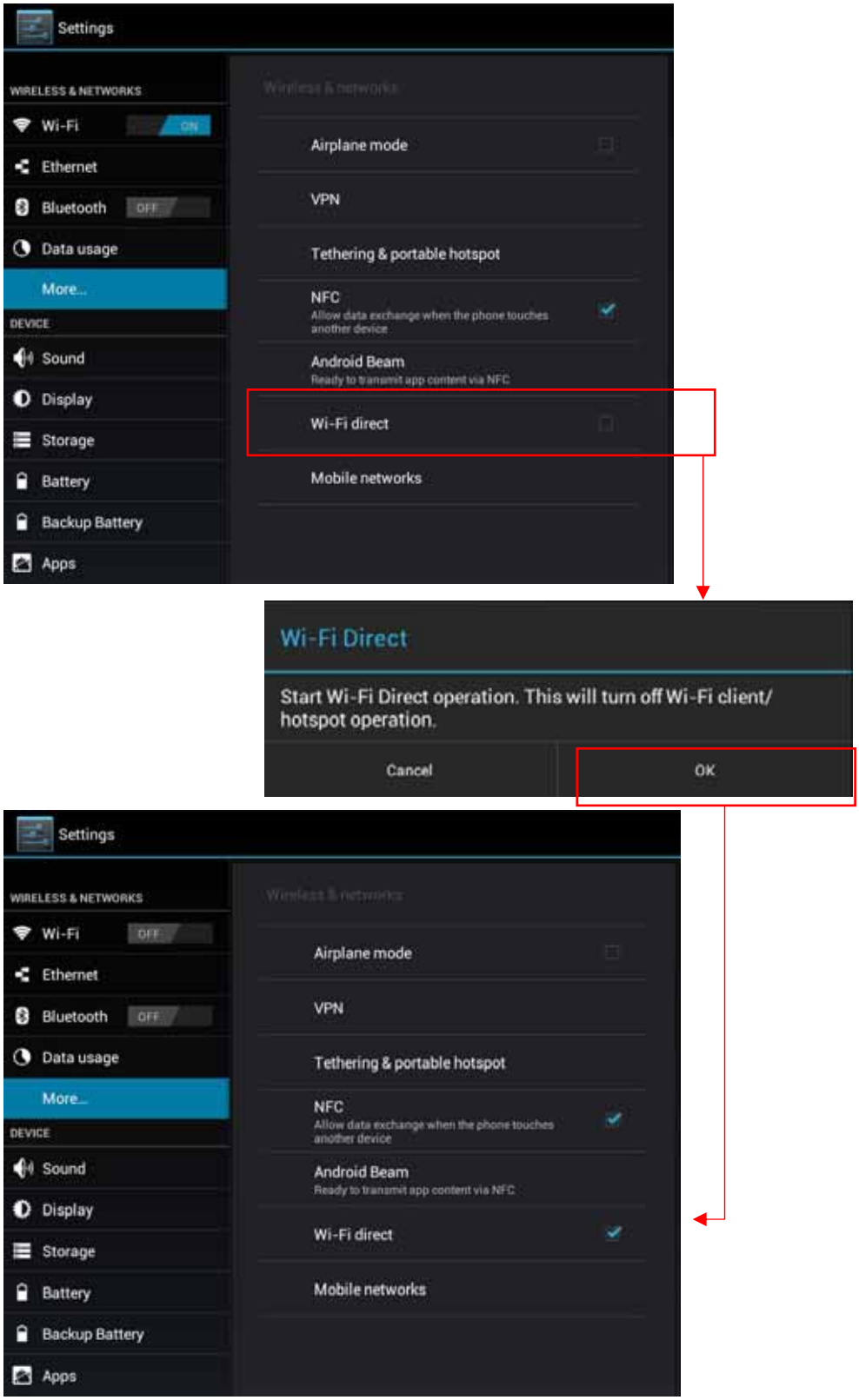


Figure 6.23

Table 6.10

Item	Operation
No	Closes the dialog and returns to the main screen.
Yes	Enters the Wi-Fi Direct settings screen. The main screen reappears when you select the back key on the settings screen.

When select “Yes”, screen enters settings, then check the Wi-Fi Direct.



Push [Back key] to return application, Select “Receiver mode” to continue process again.

3) Start check

Push **Start** button on owner terminal after pushing **Start** button on client terminals.

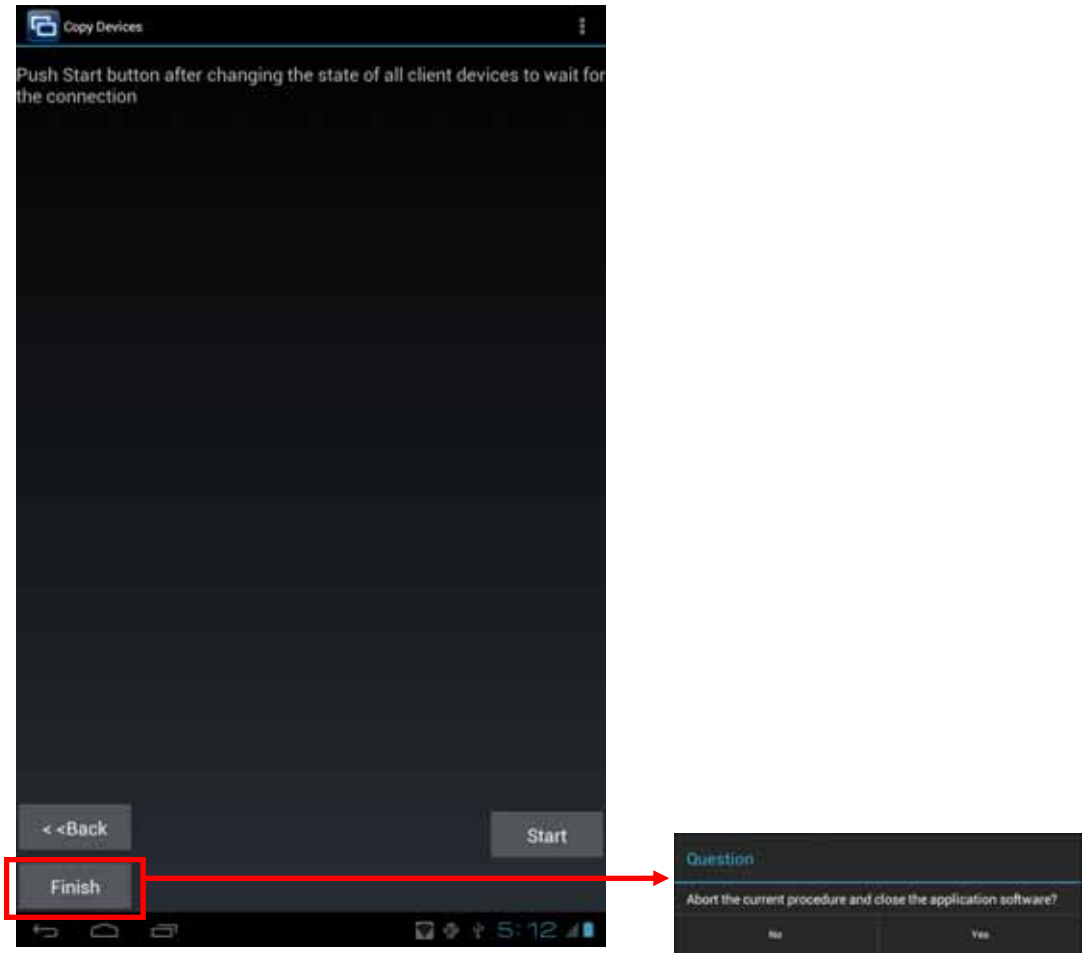


Figure 6.24

Table 6.11

Item	Operation
Start	Starts processing. A short sound and vibration are produced three times.
Back	Returns to the main screen. A long sound and vibration are produced once.
Finish	Terminates the application after displaying a termination confirmation dialog (to prevent operation errors during execution).

4) Transferred data check

The following factors about built-in storage (/mnt/sdcard) are checked.

- Existing backup data
- Volume of backup data

If something incorrect is found, the following dialog is displayed.

[In case the backup data does not exist]

The following dialog appears after a long vibration:

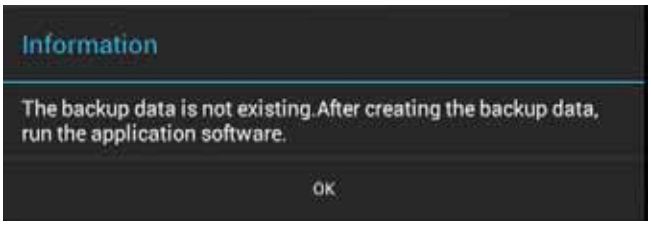


Figure 6.25

[In case data volume in built-in storage is over 2GB]

The following dialog appears after a long vibration:

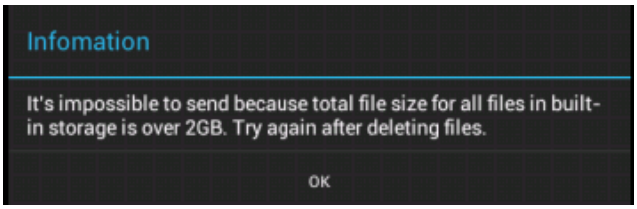

Infomation
It's impossible to send because total file size for all files in built-in storage is over 2GB. Try again after deleting files.
OK

Figure 6.26

5) Data transfer

The owner terminal displays the processing status in a green background.

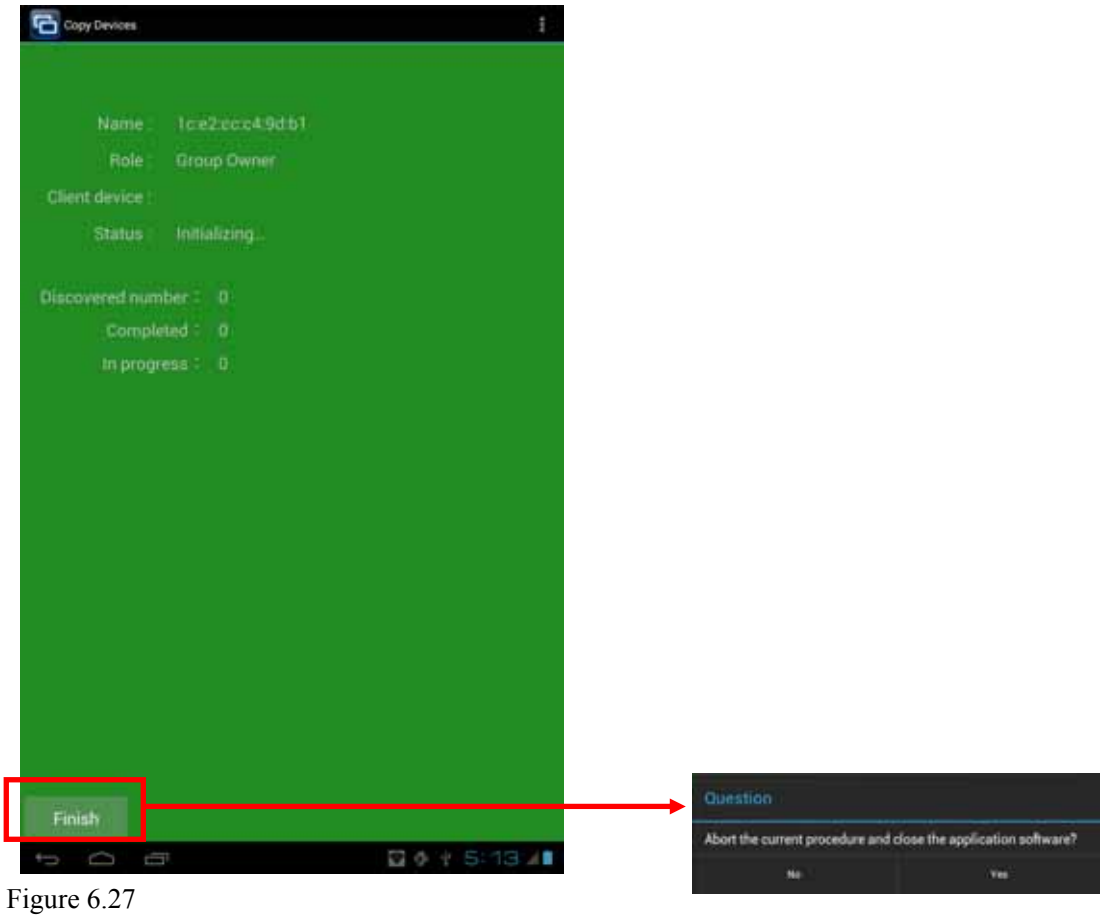


Figure 6.27

Table 6.12

Display item	Description
Name	MAC address of the local terminal
Role	"Group Owner" is displayed, indicating that the terminal is the owner terminal.
Client device	MAC address of the client terminal with which communication is in progress
Status	One of the following is displayed as the status: Zipping… Initializing... Searching for client terminal Waiting Connecting(n/N) Transmitting data ... Data transmission failed Data transmission completed Interrupted
Discovered Number	Number of detected client terminals belonging to the same group
Completed	Number of client terminals to which the data has been copied
In Progress	Number of client terminals that are in progress of processing

After finishing processing on all detected client terminals, the owner terminal checks for unprocessed client terminals again and continuously repeats the same processing.
(This assumes the case where client terminals are occasionally added as part of kitting work.)

Therefore, on the owner terminal, perform termination processing from this screen after confirming all processing on client terminals has been completed.

7. Demo Tools

7.1 Software List

Table 7.1

Icon	Software name	Package name
	NFC Demo	jp.casio.vx.util.demo.nfc
	Barcode Scanner	com.google.zxing.client.android

7.2 NFC Demo

Overview

Basic Functions

1) Scanned NFC information display

The NFC type and ID are displayed.

2) Localization

If Japanese is selected as the language, various kinds of data are displayed in Japanese.
If another language is selected, various kinds of data are displayed in English.

Operation Specification

Startup

NFC Demo, the package name of which is jp.casio.vx.util.demo.nfc, can be started from the Home Application.

Main Screen

The landscape screen layout is always assumed, regardless of the terminal orientation.

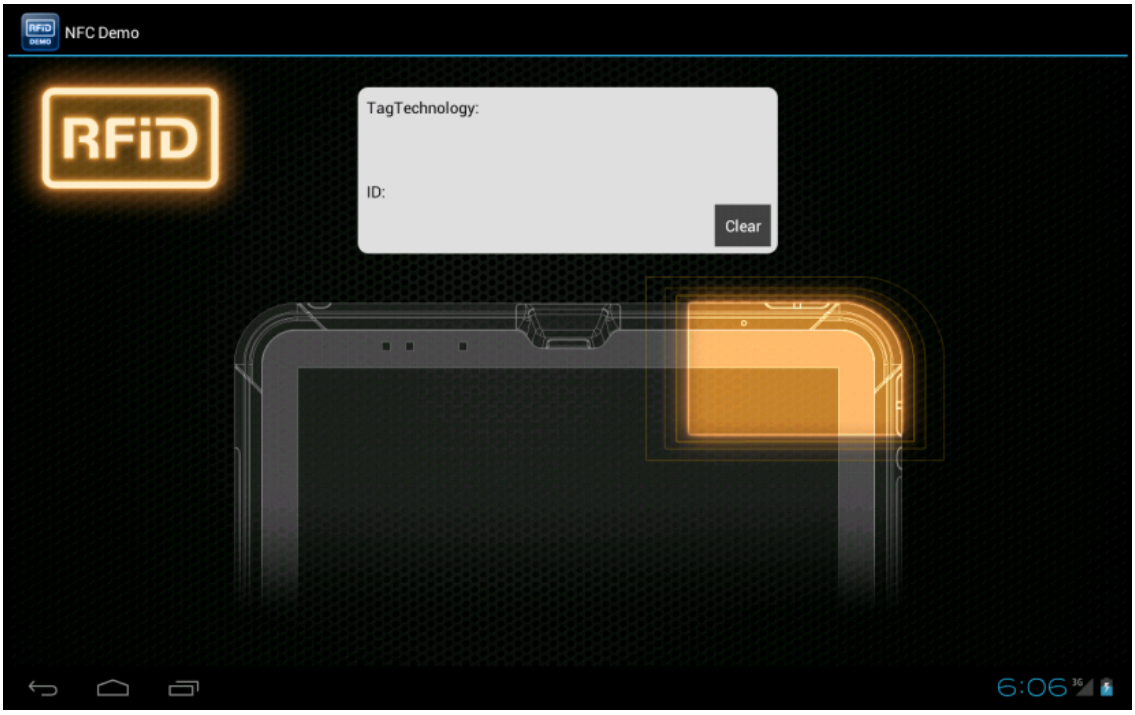


Figure 7.1 Landscape orientation

Figure 7.2 Portrait orientation

[When NFC is disabled]
If NFC is disabled, the application displays an alert dialog and terminates when you select **OK** in the dialog.

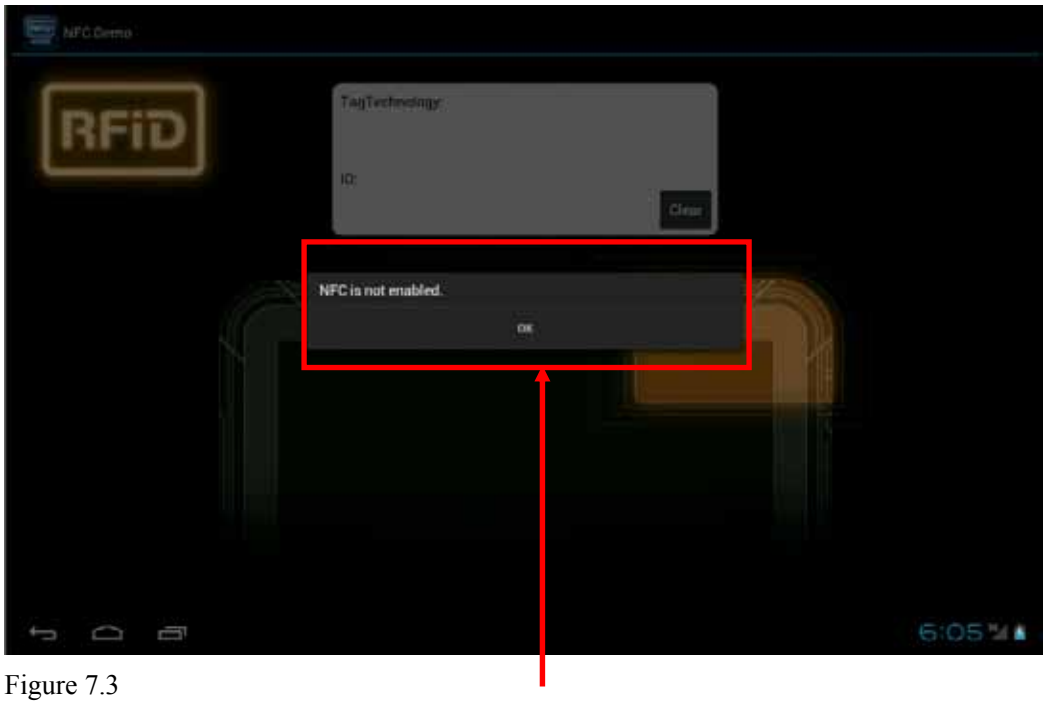


Figure 7.3

Scanned Information Display

Hold the NFC card over the upper right corner, which is highlighted on the terminal skin image. The application notifies you that it has read your card (by emitting a confirmation sound), and then displays the card type and ID as follows:

Figure 7.4

Table 7.2

No.	Item	Description
1	Card type	Detailed information including the standard name Information **2** below is displayed in a readable format. The specific display content is described later.
2	Card type (internal information)	Card type obtained by Android SDK List of multiple applicable types 1) MifareClassic 2) MifareUltralight 3) NfcA 4) NfcB 5) NfcF 6) NfcV 7) IsoDep 8) Ndef 9) NdefFormatable
3	ID	Card ID

In **1**, any of the following is displayed as the result of reformatting.

Table 7.3

No.	Display
1	NFC-A (ISO 14443-3A) [MIFARE Classic]
2	NFC-A (ISO 14443-3A) [MIFARE Ultralight]
3	NFC-A (ISO 14443-3A)
4	NFC-B (ISO 14443-3B)
5	NFC-F (JIS 6319-4) [FeliCa]
6	TAG (ISO 15693)

[Clearing the display area]
The **Clear** button clears the display area.

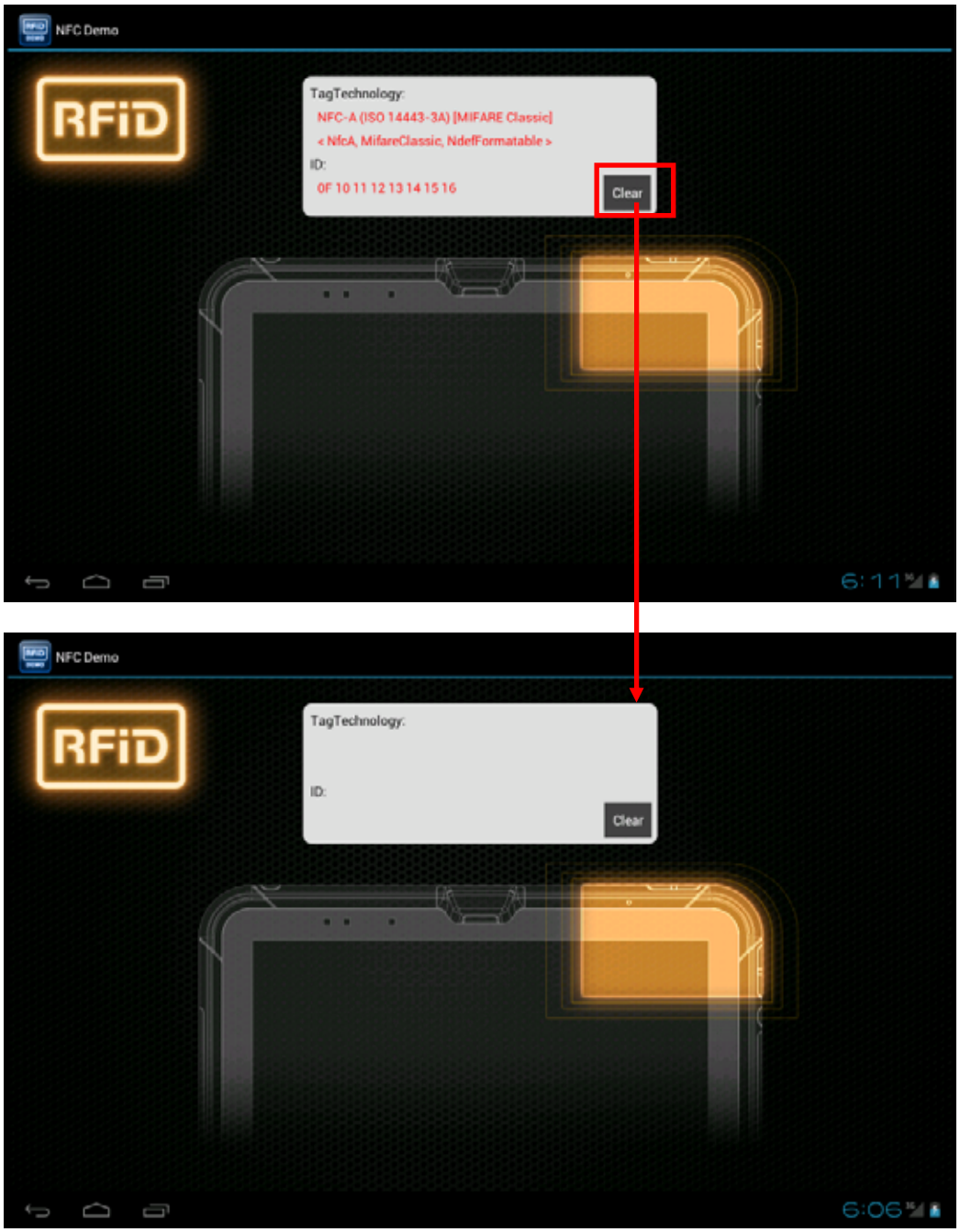


Figure 7.5

Back Key Operation

Upon a back key operation, a confirmation dialog is displayed. If **OK** is selected, the application is terminated.

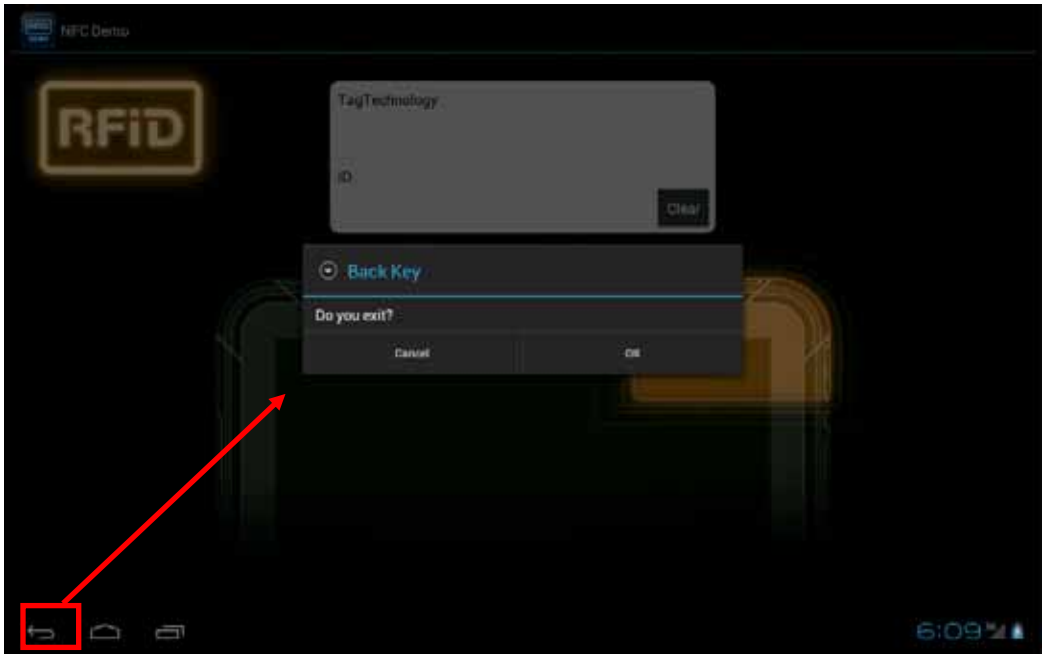


Figure 7.6

7.3 Barcode Scanner

This function reads barcodes.

Figure 7.7 Barcode reading screen

1. Barcode preview area

■ Barcode preview area

Position the barcode to be read within this area.

When the barcode is read, you will hear a bleep. Then, the screen changes to the barcode information display screen shown on the next page.

Figure 7.8 Barcode information display screen

1. Barcode information display

■ Barcode information display
The image and information of the read barcode are displayed.

Notes

Barcode Scanner is using ZXing ("Zebra Crossing") version 4.2.
About readable bar code and for more information, please refer to the following Web site of ZXing.
http://code.google.com/p/zxing/

8. Paper Writer Accessories

8.1 Software List

Table 8.1

Icon	Software name	Package name
	Capture	jp.casio.vx.app.paperwriter.capture
	Finder	jp.casio.vx.app.paperwriter.finder
	Calendar	jp.casio.vx.app.paperwriter.calendar
	Contacts	jp.casio.vx.app.paperwriter.contacts

8.2 Paper Writer

Paper Writer is application software that manages digitized handwritten documents being captured from the camera with simple operation.
It is supported only by the “Paper Writer V-N500 Series”.

It consists of the following software.

Icon	Software name	Summary
	Capture	Capture the contents written in paper on the paper holder (closing shot mode), and business cards or the contents written in a notebook or similar document (flipping shot mode).
	Finder	Use the Finder to view, edit, print and configure the settings for photographed images.
	Calendar	In addition to the calendar function provided as a standard accessory, you can link the calendar data to images and the address book.
	Contacts	In addition to the address book (User) provided as a standard accessory, you can link the address book data to images and the Calendar.

For details, see “Paper Writer V-N500 Series User’s Guide”.